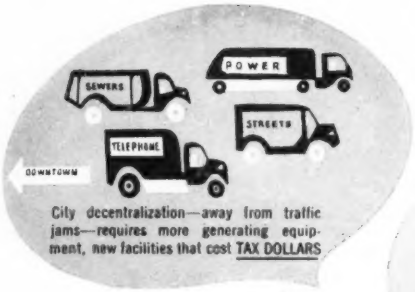
ELECTRICAL WORLD

News Issue

JANUARY 2 • 1949

A McGRAW-HILL PUBLICATION

Bayard L. England, Newly Elected President of the Atlantic City Electric Co



City decentralization—away from traffic jams—requires more generating equipment, new facilities that cost TAX DOLLARS

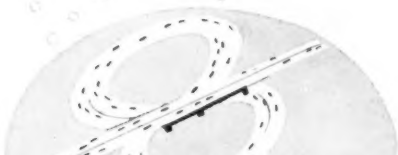
You carry the tax load in your town!

Decentralization also means less business downtown. Property values drop! TAX RATES CLIMB!

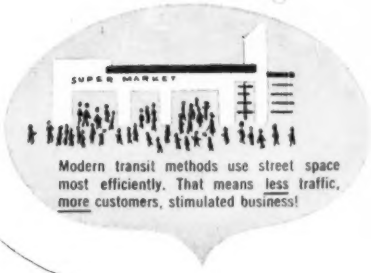
ELECTRICS CARRY MORE PEOPLE FASTER

You have the biggest stake in transit. Let us help you promote sound transit practices. Modern *electric* transit attracts more people to public transit, greatly reduces traffic congestion.

Apparatus Department,
General Electric Company,
Schenectady 5, New York.

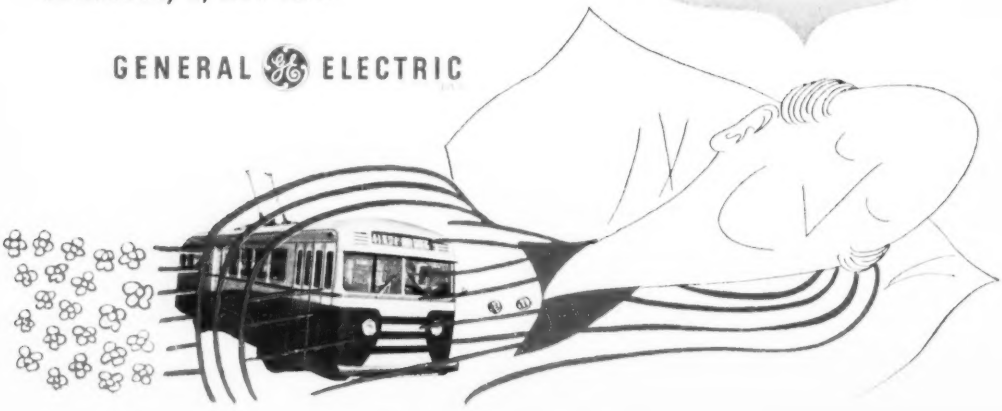


Million-dollar superhighways and freeways mean SOARING TAX RATES



Modern transit methods use street space most efficiently. That means less traffic, more customers, stimulated business!

GENERAL ELECTRIC



The Electrical Week

Electrical manufacturers and the utilities want no part of the Commerce Department's steel allocation program for three good reasons—enough equipment is being manufactured, if needed it wouldn't take long to establish such a program, and they have had enough of government controls . . . Consolidated Edison promises a stiff fight against an order of the New York PSC reducing electric rates . . . TVA is ready to begin its fight for a steam generating plant at New Johnsonville, Tenn. But the National Association of Electric Companies has sent out an appeal asking all industry to join it in the battle on the proposed plant . . . Nature has been acting up as if to celebrate the sleet storms of a year ago. Floods, sleet storms, snow, and a tornado were reported in various sections of the country, but the utilities fared rather well . . . In Washington, Senator Langer found out that there is a shortage of conductor for REA lines. But it wasn't exactly news to the industry, and no solution to the problem was found . . . And in Akron, Ohio, what are claimed to be the biggest street lights in the world, 25,000-lumen, have been put into operation.

Laundromats, the now familiar service agencies where Americans can have a washer of clothes done for a quarter, have made their appearance in Belgium. In Flemish sections, they are called Wasse-o-matics and in French sections, Lave-o-matics. The fee is 20 francs.

The American Federation of Labor has a new scheme to prevent unemployment. When work starts to slack off, Daniel W. Tracy, president of the International Brotherhood of Electrical Workers and head of AFL's Shorter Work-Day Committee, said AFL will press for a 30-hour work week to spread employment.

The French now have an atomic pile, but it is so small that it would take thousands of years to make enough plutonium for an atomic bomb.

"Safety before . . . No regrets after" is the safety slogan which will be used by the Indiana & Michigan Electric Co in 1949.

In the Winnipeg area of Canada, homeowners can now buy electric water heaters outright instead of being compelled to rent them.

In Texas, where there are many laws regulating unions, labor organizations will ask the next Legislature to repeal all of them. These laws make unions subject to the same anti-trust limitations as corporations, make registration of union organizers and officers compulsory, require an open shop, prohibit violence in labor disputes, prohibit deducting union fees from paychecks, restrict mass picketing, forbid strikes by government employees, prohibit secondary strikes and boycotts, and prohibit strikes or picketing at electric, gas, and water plants.

Shortage of generating capacity is only one of the difficulties facing the Pacific Northwest. Another lack, equally important, is that of transmission facilities to handle the output of new projects.

Electric utilities have the largest coal stockpiles in history. On Dec 1 they had 27,438,870 tons, 45% more than on Dec 1, 1947. Based upon November coal consumption, this was enough to last 96 days.

Now We Know Dept—Russia is watching construction of power dams more than any other phase of this country's defense program, claims Sen Wayne Morse, Oregon Republican.

Transformers and electric refrigerators were part of the cargo of the first ocean-going vessel to leave St. Louis. Destination of the ship was Cuba.

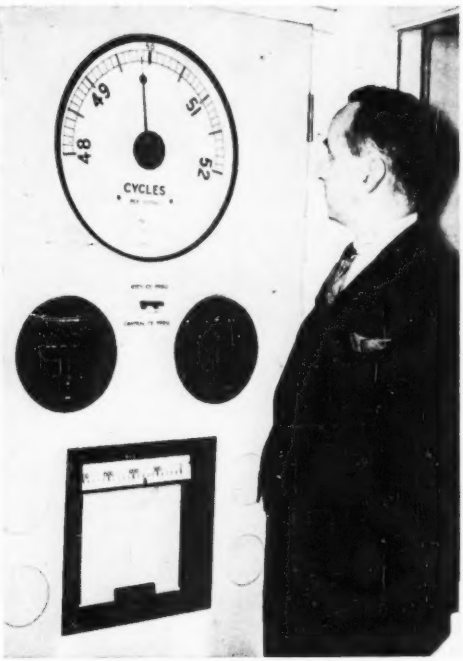
Great Britain has scrapped controls on the manufacture of 70 different products.

Many electric utilities are starting 1949 by adding another year to their announced construction plans.

A record that will be hard to equal is that set by the Pacific Gas & Electric Co, which installed 404,000 hp of capacity in 1948. In the next three years, 1,397,000 hp more will be added.

Notes From The News

Direct current generation in Spokane, which was started in 1886, has ended. Washington Water Power Co has shut down the last d-c generator . . . The American Labor Party wants New York law amended so that the Public Service Commission can consider electric and gas rates together in rate fixing . . . Cordova, Alaska, has established Daylight Saving Time to conserve power . . . Russia claims that in 1948 coal output was 2.2 times the 1940 level and generated electricity 2.5 times . . .



WATCHING FREQUENCY at the control room of the British Electricity Authority, 100 ft below street level near St. Paul's, London, is this BEA engineer. All seven regions of the BEA grid are controlled from this point. The British system operates at 50 cycles

French homes which have been without electricity during the daylight hours two days a week will soon be without it three days a week. The nation-wide hydroelectric installations have only 26% of their normal water supply available . . . A worker who had given Arkansas Power & Light Co notice that he would quit the next day was one of three killed when a secondary touched a high-voltage line . . . Electric companies and union workers in Japan have settled their five-month dispute . . . The Russians have given the leading employees of the coal and power industries in the Eastern zone of Germany a Christmas bonus of a month's pay.

Power rationing put into effect by the Northern Quebec Power Co in November has been cancelled. The area affected was in the gold mining district . . . Snohomish County (Wash.) Public Utility District No. 1 has been given permission by United States District Judge Lloyd L. Black to start a second condemnation suit against Puget Sound Power & Light Co properties . . . Discovery of uranium-bearing ore in the Lake Quinault area of the Olympic peninsula of Washington has been reported . . . A record peak reported was 2,137,200 kw at 5:30 PM Dec 27 for power generated and purchased by the Niagara Hudson System, up 23,000 kw from the record set a week previously.

Financial:

A committee representing a minute portion of the 786,000 publicly held preferred shares of American & Foreign Power has appealed to SEC to prohibit payment to parent Electric Bond & Share Co on Jan 22 of interest on $30,000,000 of 3% serial notes. Behind the appeal is deferment of fourth quarter preferred dividends to Feb 15 . . . North American Light & Power Co will retire its minority common stock on Jan 14. Shares can be exchanged for Illinois Power common at a rate of 3/10 share Illinois for one of Light & Power . . . Dividend for owners of blocks of 60 shares of Electric Bond & Share common was one share of Carolina Power & Light common. Other share owners received 50¢ a share . . . Kentucky Utilities has changed its articles of incorporation to permit an increase in its common from 2,300,000 to 3,000,000 shares.

FPC has authorized Montana-Dakota Utilities Co to issue $4,000,000 of first mortgage bonds . . . Atlantic City Electric Co has terminated its affiliation with the American Gas & Electric Co, which organized it in 1907 . . . Delaware Power & Light Co has increased its quarterly dividend on common from 25¢ to 30¢ . . .

Construction:

Consumers Power Co has started grading operations on the shore of Lake Erie south of Lakeside, Mich. A 170,000-kw plant, tentatively named Erie, will be erected on the site . . . The first concrete was poured Dec 23 at the McNary Dam in Washington. Capacity of the power plants to be erected at this Columbia River plant will be 980,000 kw . . . Southern California Edison Co has adopted the largest construction budget in its history for 1949. Total is $74,091,724 . . . The proposed tieup between the Columbia River power system and the northern California system, through Mt Shasta facilities, is feasible and practical from an engineering standpoint, Dr Paul J. Raver, Bonneville administrator, asserts . . . Pacific Power & Light Co is planning a new central power transmission and distribution center in Portland. It will cover three city blocks and will house two of the largest power transformers in the Northwest.

ELECTRICAL WORLD, Published weekly by McGraw-Hill Publishing Company, Inc. Publication Office, 99-129 North Broadway, Albany 1, N. Y. Editorial and Executive Offices, 330 West 42nd St, New York 18, N. Y. James H. McGraw (1860-1948), Founder; James H. McGraw, Jr, President; Curtis W. McGraw, Vice-President and Treasurer; Eugene Duffield, Executive Assistant for Publications; Nelson Bond, Director of Advertising; Joseph A. Gerardi, Secretary; J. E. Blackburn, Jr., Director of Circulation. Subscription rates: Single copy 35 cents. In the United States, $6 a year, $9 for two years, $12 for three years. Canada, $7 for one year, $11 for two years, $14 for three years. (Canadian money at par.) Pan-American countries, $15 for one year, $25 for two years, $30 for three years. All other countries $20 for one year, $30 for two years, $40 for three years. Entered as second class matter, November 16, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed in U. S. A. Copyright 1948, by McGraw-Hill Publishing Company, Inc. All Rights Reserved. Cable address McGRAW-HILL, New York. Member A.B.P. Member A.B.C.

Voluntary Steel Allocations Unpopular

Electrical Manufacturers and Power Utilities Avoiding Commerce Department System, but Domestic and Foreign Allocations Will Take 20% of Production

ELECTRICAL MANUFACTURERS and power systems are avoiding the Commerce Department's steel allocation program as the plague. But a lot of their competitors for steel are doing no such thing.

Political allocation programs, domestic and foreign, will be taking about 20% of total finished steel production by mid-year. And, if 1949 ECA shipments exceed the Commerce Department projections made last summer, as they well may, the cut into steel supplies will be even heavier.

The electrical industry's reasoning in staying away from allocations seems to be based on several realistic points. For one thing, the output of heavy power equipment is holding up without benefit of allocations—improving steadily too. For a second, there's considerable feeling that if steel allocations become necessary to keep power supply expansion going, they wouldn't be hard to arrange. For a third, the electrical industry wants no more government control than is required. With many other industrial leaders, top men of the electrical manufacturing and power companies figure that restraint today will obviate controls tomorrow.

Allocations Program Outlined

As for the allocations program, here's how it works out now.

Voluntary allocations, with at least 14 programs scheduled for operation by March 1 for the six months following, will take from 10 to 12% of finished steel from the production pie. ECA exports, which took about 2% of production during the first six months of 1948, are expected to take about 3.5% in 1949. Non-ECA exports, which took about 5.5% during the first half of 1948, are dropping to a level of about 4.5% for this year and may drop further to balance the ECA increases.

Individual Products Hit

The place where these cuts are going to hurt is in the individual steel commodities. Plate, at the year-end level, was 42.8% allocated. Structural shapes were 34.5% earmarked. Tin plate and terne plate were 16% allocated, pipe and tube 15.3%, bars 13.1%, sheet and strip 9.3%, ingots, blooms, and billets 8%, and wire and wire products 7%.

By the time the ECA export increase comes into full effect, the drain on plate, shapes, and sheet and strip will be considerably heavier.

ESTIMATED MONTHLY STEEL PRODUCTION AND ALLOCATIONS IN 1949

Commodity	Production[1]	ECA and Other Export		Domestic Allocation		Percent Allocated
Ingots, Blooms & Billets	257,300	9,500		11,695		8.2
Structural Shapes	373,900	39,500		89,407		34.5
Plates	571,300	41,200		204,289		43.0
Rails & Accessories	245,300	29,100		1,631		12.5
Bars	925,700	48,400		72,138		13.0
Pipe & Tube	553,000	52,900		31,637		15.3
Wire & Wire Products	406,400	24,300		4,450		7.1
Tin & Terne Plate	323,800	51,200		330		15.9
Sheet & Strip	1,623,900	51,400		102,808		9.5
Axles & Wheels	45,200	N A		23,625		52.3
TOTALS	5,325,800	347,500	+	541,700	=	889,200
%	.....	6.5%		10.1%		16.7%

[1] Estimate based on production equal to that in 1948

The table shows monthly production for 1948 and export averages and domestic allocations through September, 1949, as they will be on Feb 1, assuming 1949 production is equal to that of 1948. Production figures are based on the first ten months of 1948.

Domestic voluntary allocations now being set up, to continue until next September and probably after that if the Taft Act is continued, account for 541,700 tons of steel products a month. By March the figure will be over the 600,000-ton mark. In addition, three lump-sum agreements, to provide steel for African manganese ore cars, a natural gas pipeline into the AEC plants at Oak Ridge, and farmers' grain bins, add another 84,000 tons to come out of the pot during the spring.

Output of mill products should average around 5,500,000 tons a month if everything goes well next year.

Here are the voluntary allocations of finished steel now on the books for the next nine months:

Mining machinery, a new program starting in February, 26,400 tons a month.

Oil field tanks and production equipment, 16,530 tons a month.

Oil tanker production and repair, 40,380 tons a month.

Merchant vessel construction and repair, increased from the present 10,000 tons to 15,415 tons per month, starting in February.

Freight cars, 249,682 tons a month.

Barges, an increase from the present 20,000 to 25,000 tons per month, the increase to become effective in February.

The military, 102,505 tons per month.

The AEC, a reduction from the present 20,000 to 16,414 tons per month. The joker here is that an additional lump-sum agreement for 25,000 tons has been okayed for a gas pipeline to Oak Ridge.

The National Advisory Committee for Aeronautics, 1,926 tons a month.

Still in the discussion stage, but also slated for continuation after the March 1 date, are the following:

Warm air heating materials, now 29,122 tons a month. This allocation might be reduced, but it will depend upon what the administration advocates in the way of a national housing program.

Prefabricated housing (steel), now running at about 10,000 tons a month, final allocation depending upon the success of Lustron and other steel house builders and upon the administration's housing program, which is still to be arranged.

Anthracite coal mining maintenance and repair, now 2,570 tons a month.

Bituminous coal mining maintenance and repair items, not now being programmed but under consideration for a "pooling-of-orders" scheme. This would allow small mine operators to pool needs so as to order in carload lots. Steel producers are not considering orders of less than carlots. Initial request for this category totals 31,000 tons a month.

Petroleum terminal storage tanks, not now under the program but being considered. Original request was for 16,000 tons a month.

Another new program, for oil country goods and pipeline pipe, has been submitted but probably will not get by because of the tardiness in getting it presented.

The lump-sum agreements already made include the AEC pipeline (25,000 tons), grain bins (50,000 tons of galvanized sheets), and ore cars for South African manganese production (9,000 tons).

JAMES C. EYLER, center, receives the congratulations of President O. Titus of Metropolitan Edison Co following the rededication of the company's 103,000-kw plant at West Reading, Pa., as the Eyler Generating Station. Eyler retired two years ago after serving the company for 46 years, the last 12 as manager of the Reading division. At right is W. H. Doran, executive vice-president, who unveiled a bronze plaque erected at the station

Consolidated Edison to Fight Rate Cut Ordered by New York PSC

CONSOLIDATED EDISON vowed this week to fight to the end a New York Public Service Commission order cutting its electric rates $21,500,000 yearly.

The order was a New Year's greeting from retiring PSC Chairman Milo Maltbie. On December 27 he climaxed a two-and-one-half-year rate case—whose final hearing closed 25 days earlier—with a recommendation for a temporary tariff cut of 10%.

It took the full commission three days to approve the Maltbie suggestion. With the electric slash, the PSC announced that it would permit Edison to file gas rate boosts amounting to $11,400,000.

President Ralph Tapscott declared that his system will file the reduced electric schedules Jan 10, as required. It filed the gas tariffs this week. No request was indicated for a stay of execution.

But Tapscott declared also that:

"The company will resist with every legal means at its disposal the PSC's order to reduce electric rates by $21,500,000."

Its primary basis for this resistance, the company made plain, is the financing it must do to carry through necessary system expansion. Thus far since the war ended, Consolidated Edison said, it has spent $185,000,000 for expansion. Through 1952 it will spend $250,000,000 more. The company noted that its debt has increased, its common already sells below par, and its outstanding convertible debentures have not been converted. On such a basis, the company statement declared, "this rate order . . . would practically preclude the raising of new equity money."

Charging that the PSC order does exactly the opposite of the Commission's statutory duty, Edison asserted that "it damages the credit of the company and its capacity to meet the great needs for electricity of the greatest city in the country."

Maltbie's rate cut was instituted under the state's Temporary Rate Law. Its author indicated that "probably several months" would be required for the PSC finally to go through the 8,500 pages of testimony and 400 exhibits which he handled in 25 days. Where Consolidated rates would end up on the final order was something that no one would venture to predict after reading the temporary rate order.

Maltbie's recommendation said that Edison, during the year ended last Sept 30, earned slightly more than 7% on a rate base which averaged $662,507,806 during the same period. Depending on how his recommendations are construed, the new rate of return would be 5.15% or 6.10%.

The variation arises primarily from a $95,500,000 item by which he found the company's book depreciation reserve to be deficient. If you permit the $95,500,000 to stay in the rate base and project the same "operating income after income taxes" for the year 1949 which was experienced in the year ended last Sept 30, the net rate slash gives a return of 5.15%. That's just above the 5% return which the Temporary Rate Law requires. If you deduct Malbie's $95,500,000 depreciation reserve deficiency from the rate base and assume the same "operating income after income taxes" for 1949 as was recorded in the 12 months ended last Sept 30, the rate of return becomes 6.1%. Which course—if either—the PSC will take in its final order remains to be seen.

Whatever the final order does about this depreciation inadequacy, that subject promises to be one of the most diligently contested parts of the order. Company spokesmen insisted that the depreciation charges Edison is making are precisely those ordered by the PSC in an earlier proceeding. Yet, having noted the $95,500,000 deficiency in accrued depreciation, Maltbie declared that a corresponding reduction must be made in Edison's annual depreciation charge. This would amount to $2,278,888 yearly, he said, adding:

"The attempt to make present and future electric consumers bear the (depreciation) deficiency which should have been provided for long ago is inequitable and should not be recognized in fixing present rates."

Maltbie's order refused utterly to balance the deficient earnings on Consolidated's gas properties against any excessive earnings on electric plant. New York's American Labor Party contends that both rates should be considered together.

Speculation arose immediately as to the effect this order might have upon negotiations which Edison now has underway with the Utility Workers Union, CIO, regarding pay scales.

Politically, also, the rate cut brought speculation. Maltbie reportedly stayed on the Commission six months after giving his resignation to Gov Thomas E. Dewey last June 14 for the sole purpose of completing the Edison rate case. Just before handing down his rate cut order, he filed for retirement effective Jan 22.

Edison's decision to fight the temporary order provoked speculation as to whether Maltbie might remain on the job until a decision were reached.

•

Grant Texas Franchise

Gulf States Utilities Co has been granted a 25-year franchise by the Navasota, Tex., City Commission.

Get Action LIKE THIS:

★ **24 hours to make and install coils in 250 HP motor**

★ **Rebuilt 250 HP slip ring motor in 2½ days**

★ **3 days to rebuild 125 HP motor including 200 miles of truck shipment**

THESE ARE ACTUAL JOBS turned out by Giles Armature and Electric Works, Marion, Illinois . . . the kind A-C Certified Service Shops are doing every day!

When every hour costs money . . . when production is stopped . . . Allis-Chalmers Certified Service on motors, transformers, pumps, etc., can get you rolling again, *fast*. Dependable for prompt service on routine work, too.

Call Your A-C Office or Dealer. A-C Certified Service Shops are hand-picked, independent repair shops meeting rigid standards for equipment, trained personnel and business reputation for square dealing. For the one nearest you, ask your Allis-Chalmers Dealer or District Office.

Check with us for *new* motors too. Stock or quick delivery on many sizes, types.

Texrope and *Vari-Pitch* are Allis-Chalmers trademarks. A 2594

ALLIS-CHALMERS, 932A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

Sold . . .
Applied . . .
Serviced . . .

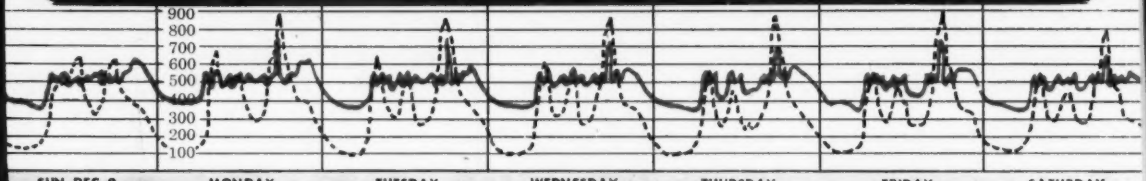
by Allis-Chalmers Authorized Dealers, Certified Service Shops and District Offices throughout the country.

MOTORS — ½ to 25,000 HP and up. Matching Allis-Chalmers Control.

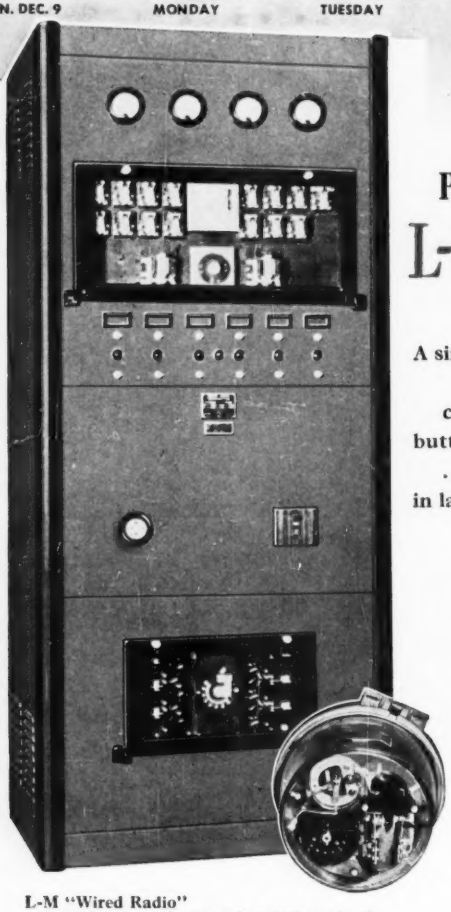
TEXROPE — Belts in all sizes and sections, standard and Vari-Pitch sheaves, speed changers.

PUMPS — Integral motor and coupled types. Sizes and ratings to 2500 GPM.

Load curve meets "Wired Radio"... load curve loses peaks . . . valleys are levelled!



Black line: Original load curve—note extreme peaks and valleys. *Red line:* Load curve after four groups of water heaters were put under L-M "Wired Radio" control. Costly peaks were cut 200 kw, valleys were levelled, leaving 200 kw of peak capacity for future growth.



L-M "Wired Radio" transmitter, and control unit (receiver)
Just push any one of the twelve buttons . . . the transmitter automatically sends out the signal. No pilot wires, no complicated operation.
Control unit operates the individual heater, group of lights, or other load. No tubes, no clocks—only a simple filter circuit. Quickly adjusted to operate on any one of the six signal groups, regardless of location.

Put your loads where you want them...with

L-M "Wired Radio" Control

A simple, flexible method for remote control of water heaters, street lights, and other loads...with low voltage 3000-cycle carrier current sent over your present lines. Simple push-button operation...easily installed...practically no maintenance ...pays for itself in 3 to 5 years. Many 8-10 year installations in large and small cities. Better than 99.9% correct operation.

Push a button—and the automatic transmitter at substation sends out a low voltage 3000 cycle carrier current signal coded for any one of 6 groups of loads. This signal goes wherever the 60-cycle current goes, without interference; but it operates only the group you selected.

You can turn any group of water heaters on or off at any time, spreading the load over profitable off-peak periods. That eliminates peaks caused by clock control. You control street lights manually or by photo-cell, in any desired group. You can thus take full advantage of the many economies of multiple street lighting.

No pilot wires, no clocks, no tubes, no trouble; just a practical, proved control system that works!

Releases distribution and generating capacity by cutting peaks before they occur. Get the lowdown! **Ask the L-M Field Engineer, or write Line Material Co., "Wired Radio" division, East Stroudsburg, Penna.**

LINE MATERIAL "Wired Radio"

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street and Airport Lighting Equipment • "Wired Radio" Control Equipment • Capacitors

"You save lives with lumens...

when you install adequate street lighting"

Says: **Elmer L. Lindseth,** ***President, Cleveland Electric Illuminating Co.***

"MAKING America's streets and highways safe at night calls for the installation of tens of thousands of miles of new, modern street lighting. This is a stupendous undertaking that can be accomplished only by creating nation-wide public appreciation and demand. No organization or group can do this alone. To save the thousands of lives taken each year in after-dark traffic accidents, and by after-dark crime, everyone must do his full share in championing adequate street lighting in his community. Every electric utility that vigorously promotes modern street lighting is doing a civic service which makes good community relations even better."

FOR MORE FACTS...

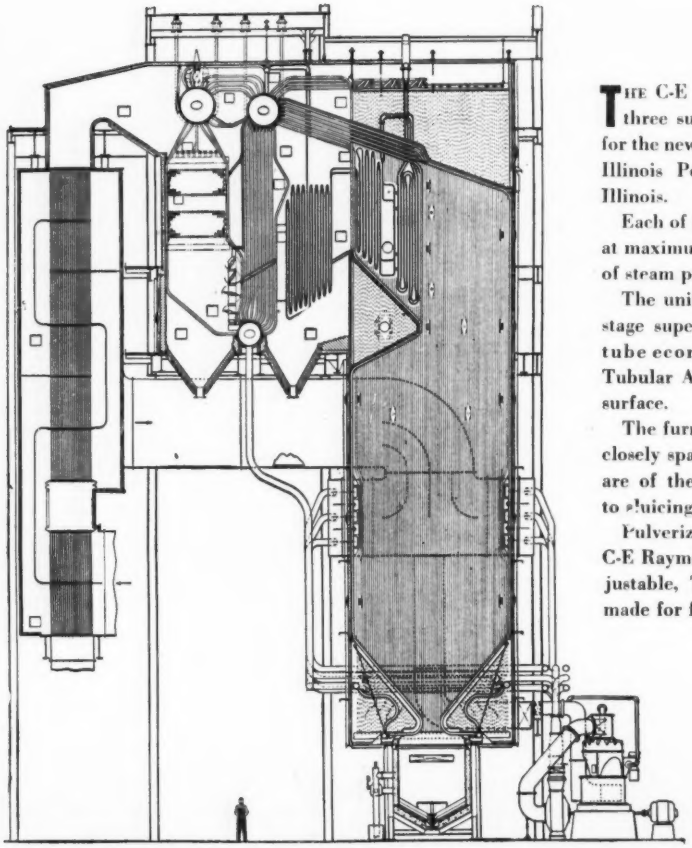
To "shed more light" on methods employed by a utility to stimulate interest in modern street lighting, write for your free copy of "A Planned Program for Better Street Lighting."

The Street and Traffic Safety Lighting Bureau, 155 East 44th St., New York 17, N. Y.

Recent C-E Steam Generating Units for Utilities

WOOD RIVER POWER STATION

ILLINOIS POWER COMPANY



THE C-E Unit shown at the left is one of three such units now under construction for the new Wood River Power Station of the Illinois Power Company at Wood River, Illinois.

Each of these units is designed to produce, at maximum continuous capacity, 450,000 lb of steam per hr at 1325 psi and 1010 F.

The units are of the 3-drum type with 3-stage superheaters and have integral plain tube economizers in the rear pass. C-E Tubular Air Heaters follow the economizer surface.

The furnaces are fully water cooled, using closely spaced plain tubes throughout. They are of the basket-bottom type, discharging to sluicing hoppers.

Pulverized coal firing is employed, using C-E Raymond Bowl Mills and Vertically-adjustable, Tangential Burners. Provision is made for future use of natural gas. B-286

COMBUSTION ENGINEERING

200 MADISON AVENUE · NEW YORK 16, N. Y.

TVA Renews Plea for Steam Plant in Fiscal 1948 Report to Congress

WITHOUT WAITING for the new Congress to assemble, the Tennessee Valley Authority reopened the Congressional "Battle of New Johnsonville" Dec. 31. At that, TVA just barely beat the National Association of Electric Companies in reviving the row over the agency's proposed steam generating station.

A renewed plea for the New Johnsonville, Tenn., plant is a major item in TVA's annual report for fiscal 1948. Just three days after the Authority sent its report to Congress, NAEC produced a documented study of the steam plant project, blasting it as having "no jusification" (See story below).

Since the President has given the project a priority status in his domestic program, Congress is expected to review the issue in the early days of the session. Funds to start the plant, denied last session, are reported included in a supplemental appropriations bill already drafted by the Administration. TVA is likely to get the steam plant funds this time, though probably not without a battle in the House, at least.

TVA deems the New Johnsonville plant necessary to avert what it terms "a serious power shortage in the winter of 1951–52" and thereafter. According to its annual report, the agency foresees a need for 18 billion kwhr in the TVA power service area by 1952. Although the Authority and other agencies are installing 883,000 kw of hydroelectric generating facilities in the region, these additions will leave the TVA system with an annual power deficiency of some 4 billion kwhr, the report to Congress held.

The peak-load capacity and secondary energy of the new hydro units must be "firmed up," the report continues, by installation of additional steam generating facilities. The hydro additions, including plants being built by the Army Engineers in the Cumberland Valley, will reduce the proportion of steam capacity on the TVA system to "below 13%." This is "far below" the proportions of neighboring power systems, TVA says, and "nowhere near" the ratio in the Valley in 1933.

The Authority also accented its power revenues during the year ended last June 30 as evidence that "The Tennessee Valley is paying off." During the fiscal year TVA sold 12,245,000,000 kwhr at an average wholesale rate of 3.96 mills, producing total revenue of $48,770,000. Net revenues were $17,176,000, or "a return of 4¼% on the average net power investment."

Though total energy sales were up—from 11,587,000,000 kwhr in fiscal 1947—total generation of the TVA system was down about 4% to 14,248,205,000 kwhr. Poor rainfall and streamflow, last February's flood, and other adverse conditions hampered hydro production, which totaled 11,618,704,000 kwhr. Steam generation rose to 2,629,501,000 kwhr, or 17% of system output, as compared with 1,100,000,000 kwhr in 1947.

In addition, TVA purchased 342,788,000 kwhr and received 1,053,699,000 kwhr in interchange from other utility systems, bringing total energy obtained from all sources to 15,644,692,000 kwhr. This was disposed of as follows: Total sales, 12,244,859,000 kwhr; contract allotment to Aluminum Co of America, 1,484,961,000 kwhr; delivered to other systems as interchange, 1,144,046,000 kwhr; system use and losses, 770,826,000 kwhr.

Energy sales included 5,548,923,000 kwhr to municipal and cooperative systems; 3,472,884,000 kwhr to industrial users; 1,826,725,000 kwhr to other federal agencies, and 792,670,000 kwhr to private utility companies.

The 140 municipal and cooperative systems purchasing energy at wholesale from TVA added more than 100,000 consumers to their lines during the year and sold a total of 4,966,942,000 kwhr. Combined net income of these systems amounted to $12,243,000 on energy sales. Their residential consumers used an average of 2,520 kwhr each, at an average cost of 1.57 cents per kwhr.

NAEC Attacks New Johnsonville, Asks Industry Aid in Fighting Plan

A LARGE SEGMENT of the privately owned electric utility industry renewed its opposition this week (Jan 3) to expansion of steam generating facilities of the Tennessee Valley Authority.

The National Association of Electric Companies summed up its case against the Authority's projected New Johnsonville thermal plant in a booklet entitled, "TVA's New Design for Power." The tract contains a frank appeal to other private industry groups for aid in fighting the project.

The survey points out that "more than 100 organizations of businessmen, taxpayers, and civic leaders" joined NAEC in opposing the steam plant proposal last summer. At that time, Congress rejected a TVA request for $4,000,000 to begin construction of the plant.

The same groups should be interested in the project again this year, NAEC contends.

"The steam plant would put the federal government outright into a commercial business, opening the way for nationalizing that business," the Association says. "The precedent would be created for the nationalization of other businesses."

NAEC's survey lists arguments presented to Congress by TVA in behalf of the project, then marshals specific rebuttals. Denying that TVA has the obligation to supply the full power demands of the Tennessee Valley, it lists four alternative methods of obtaining steam energy for the area:

1. Cancellation of TVA's sales of firm power to neighboring utilities. In fiscal 1947, NAEC points out, TVA sold "more than a billion kwhr" to utility companies—energy it could turn over to its "preferred customers."

2. Purchase of off-peak energy by TVA from neighboring systems. "Large blocks of prime energy could be created in this way," NAEC holds.

3. Construction of steam plants by TVA's large industrial customers. Industries in other sections of the country have large power installations, and there is "no justification" for the government to supply TVA's industrial customers steam or hydro power "at a substantial cost to the nation's taxpayers."

4. Construction of steam plants by TVA's large municipal customers. Big cities in the area could build and operate steam capacity "for at least equal cost" to carry their base load, while buying peak energy from TVA.

•

Iowa Franchise Renewed

Voters of Carroll, Iowa, have approved a 25-year renewal of Iowa Public Service Co's electric franchise.

LINE CREWS of the New York Power & Light Corp fight ice in restoring to service the high-voltage circuits on the Spier-Rotterdam line in the Charlton area near Schenectady

Floods, Sleet, Tornado Damage Electric Utilities

Nature celebrated the first anniversary of its January, 1948, sleet storm by battering utilities with more sleet, floods, snow, and a tornado.

The New England and upper and central New York areas were hit on Dec 31. Floods on the Deerfield River inundated New England Power Co's No. 2 plant and put three 2,000-kw units out of operation for a few days. Most of the trouble was in Western Massachusetts, where many distribution lines were lost.

In New York at the same time, floods struck the New York Power & Light Corp system. Towns hit the hardest were Amsterdam, Johnstown, the suburbs of Albany, and Schenectady and its suburbs. Six hydro plants were put out of operation for causes ranging from inundation to water-borne debris and high tail waters. Loss of the plants, with 20,000 kw of capacity, was not serious because of interconnections.

The greatest trouble came from the sleet storm which followed and tore down transmission lines, some of which were coated with ice six in. in diameter. In all nine high-voltage lines were damaged in sections. Because of the ruggedness of the territory, repair of the lines was slow.

At one time 33,000 customers were without service. On Jan 3, some 15,000 were still out. It was not expected that all would be back before the end of the week. The company brought in all available crews from other parts of its system, including some from other Niagara-Hudson companies.

Earlier (Dec 27) Ellensburg, Wash., was forced to close its municipal hydro plant because of ice. The city was forced to turn to the Bonneville Power Administration for all its power needs.

In California, a 30-in. snow brought down an 11-kv transmission line on the slopes of Mt St. Helena on Christmas Eve. This left Middletown without electricity until crews of the Pacific Gas & Electric Co restored service three days later. The crews bucked drifts 8 ft. deep in an area where snow is rarely a problem.

In Arkansas, a tornado struck in the Warren-El Dorado area on Jan 3. Though loss of life and property was high, Arkansas Power & Light Co, which serves the area, reported that its main loss was a 2-mile stretch of 33-kv line between Warren and Monticello. Crews were rushed to Warren with a mobile power unit, which was used at the local pumping station to restore water service.

A portable plant brought in to aid the local hospital was not needed there; so it was used to furnish light for line crews working during the night.

•

Langer Hearing Accents Shortage of Conductor

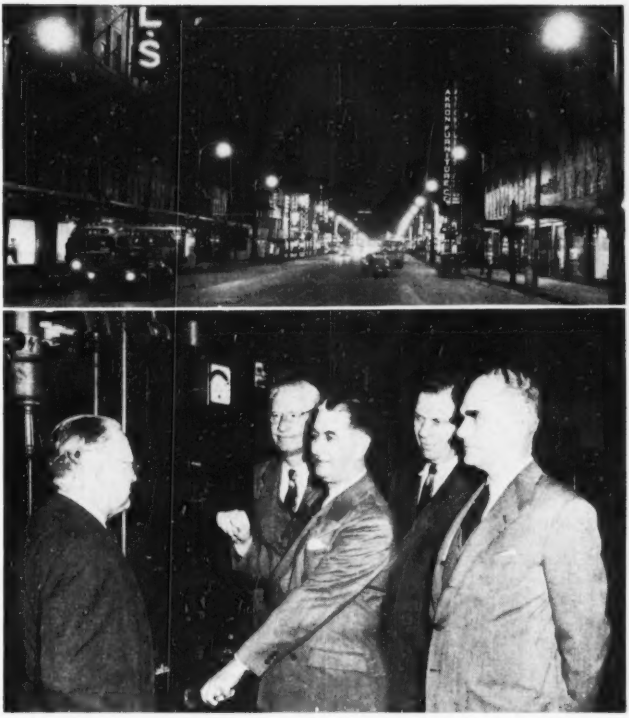
Sen William Langer, North Dakota Republican, still is wondering about the shortage of wire conductor. Nearly everyone else in Washington is wondering about the Senator's investigation of the conductor supply situation last week (Dec 28). The hearing accented the shortage, but it offered no solution.

Representatives of 17 firms producing power distribution equipment attended the brief hearing, along with officials of the Rural Electrification Administration. Senator Langer came to the point quickly. He wanted to know why there were "22,000 miles" of REA-financed power poles "in the air without wires." Many of the unwired poles were in North Dakota, he added.

The witnesses replied just as promptly. They unanimously agreed that poles, line hardware, meters, and small transformers were in fairly good supply, that conductor was something else again. W. W. Ege, Copperweld Steel Co, and Wylie Brown, Phelps Dodge Copper Products Corp, reported that copper was scarce and getting scarcer. Maxwell E. Noyes, of Aluminum Co of America's electrical conductor division, asserted that basic aluminum is in short supply. This is largely because there is insufficient electric energy "at places where it can be used to make aluminum," he added.

The witnesses denied charges that their companies gave preference to private utility orders for equipment. Ege testified that Copperweld now is delivering 72% of its A-type conductor production to REA cooperatives and that the co-ops got 66% of such production in 1947-48. All customers "look alike" to Alcoa, Noyes asserted.

REA, which consistently denied that it had inspired the Langer probe, sent its No. 3 official, Assistant Administrator George W. Haggard, and two aides to the hearings. Haggard testified that conductor is the chief bottleneck in expansion of REA-backed systems. REA borrowers will need 48,500,000 lb of aluminum for conductor in fiscal 1949, he estimated. But they anticipate a shortage of some 20,000,000 lb.



MAIN STREET, AKRON, OHIO as it looks after the installation of the 25,000-lumen street lighting system. Below, Mayor Charles E. Sluser turns on the lights from the High Street Substation of Ohio Edison Co. Watching are Marvin L. Davis, left, city service director; C. W. Fick, Cleveland District manager of General Electric Co; Boyd Bridgwater, president of the Akron Chamber of Commerce; and Vice-President Samuel Stites of Ohio Edison

Akron's Street Lights Called World's Largest

New 25,000-lumen street lights, described as the world's largest, have been put into operation in the downtown area of Akron. This is the first step in a $100,000 street light modernization of the city's business district by Ohio Edison Co.

Samuel Stites, vice-president of Ohio Edison, said that the new installation will give downtown Akron "80% more light at a cost of 28% less per lumen."

The new lights, of which 65 were installed initially, are 30 in. high, 27 in. in diameter, and use the largest—1,500-w—incandescent lamps. Dubbed "Big Jeff" by Ohio Edison, the new units were developed by engineers at the General Electric Co's Illuminating Laboratory, Lynn, Mass. Their ornamental pendant type of design is entirely new.

They are suspended from the mast-arms of 30-ft steel poles set opposite each other at intervals of 95 ft along five blocks of the city's main street. Formerly these streets were lighted by 10,000-lumen magnitite arc lamps atop 16-ft ornamental standards. The 65 new fixtures replace 79 of the old standards, thus reducing the number of poles in use as well as giving nearly three times as much light.

When Akron's street lighting program is completed some time in 1949, 181 of the 25,000-lumen lights, 50 of 15,000-lumen, and 88 of 10,000-lumen will be in use. They will replace 342 magnitite arc lamps.

•

85,000-Kw Unit Planned

Pennsylvania Power Co will build an $11,000,000 addition to its New Castle plant, practically doubling the plant's capacity. The 85,000-kw unit, which will be ready for operation late in 1951, is being designed by Commonwealth & Southern Corp engineers to operate at a steam pressure of 1,450 psi and 1,000 F.

Contract Signed Ending Fight Over Pecos Waters

A compact dividing waters of the Pecos River between New Mexico and Texas was signed Dec 3 by members of the Pecos Compact Commission at Santa Fe, N. M.

The compact which must now be approved by the two state legislatures and by Congress, ends a 24-year-long dispute.

No percentage of water or acre-ft guarantee for either state is set by the compact. It provides that New Mexico will not do anything to deplete the amount of water reaching the New Mexico-Texas state line below the amount available under 1947 conditions. Assuming water supplies remain the same as the average for the past 20 years, engineers said this guarantees New Mexico will not "by man's activities" cause the flow to drop below 250,000 acre ft at the state line. It does not hold New Mexico responsible for drops in flow caused by natural conditions.

Water salvaged in New Mexico by federal or joint New Mexico-Texas projects will be divided on the basis of 57% to New Mexico and 43% to Texas. Unappropriated flood waters will be divided equally between the two states. Water salvaged by Texas projects belongs to Texas.

Both states agree to support conservation projects to eliminate waste of water and pledge they will not oppose any project designed to salvage unappropriated flood waters, prevent flood damage, or do away with waste.

•

Boiler Tube Explosion Blacks Out Dyersburg

A boiler tube explosion at the plant of the municipal system, Dyersburg, Tenn., Dec 29 cut off electric power to the entire city for 10 minutes. Ninety percent of the town had no power for more than two hours.

Workers could not enter the boiler room for more than an hour because of escaping steam. It was the second time this year that power facilities in Dyersburg have been disrupted. A fire destroyed a part of the power plant last May.

•

Bullard Gives Franchise

The recently incorporated town of Bullard, Tex., has granted a 50-year electric franchise to Southwestern Electric Service Co. The company already was serving the community.

'Operating Arrangement' Set for Shasta Power

The Bureau of Reclamation and the Pacific Gas & Electric Co agreed on a day-to-day "operating arrangement" for the sale of Shasta Power on Dec 29, two days before the expiration date of the wartime contract.

The new agreement increased the rate paid for Central Valley Project power by PG&E by some 25%. It may be canceled on a day's notice.

Richard L. Boke, regional director for the Bureau, announced that the Bureau's rate schedule for preference customers, adjusted on a day-to-day basis, will make the new price about 5 mills per kwhr. Under the old contract the rate was approximately 4 mills per kwhr.

The change will add some $1,700,000 to the cost of Shasta Power to PG&E for 1949, bringing it to an estimated $8,100,000 for the year.

The Bureau and PG&E have been unable to reach a long-term contract for power sales. A Bureau stipulation that the new contract include an arrangement for "wheeling" power to federal agencies has been steadfastly opposed by PG&E.

A government suit to force PG&E to deliver power to federal agencies using a minimum of 500 kw is pending before the California Public Utilities Commission, with final briefs to be filed in February (EW, Dec 6, Page 78).

In a minor contract change, the rental charge to PG&E for use of the government's Shasta - Oroville line was dropped, the rent being included in the overall rate. PG&E will continue to deliver power on an exchange basis for use in Central Valley Project construction and operation.

Boke said that the fifth and last 75,000-kw Shasta generator was expected to be in full operation by March 1, bringing plant capacity to 425,000 kw. Each generator has been carrying a 10,000-kw overload.

Power deliveries from Shasta's first two generators began in 1944.

•

Utah P&L Will Buy Site

Utah Power & Light Co has authorized the purchase of a 26-acre tract adjoining its Jordan plant in Salt Lake City as a site for an $11,000,000 steam-electric generating plant.

Planned as a 63,000-kw plant, with its design permitting expansion to 200,000 kw, it is to be the largest single generating unit in the company system. Preliminary construction is to begin in 1949, with power production scheduled in September, 1951.

MEETINGS

Canadian Electrical Association—Winter Conference, Chateau Frontenac, Quebec, January 17-19.

Edison Electric Institute—Accident Prevention Committee, Book-Cadillac Hotel, Detroit, January 24-25; Transmission & Distribution Committee, Netherland Plaza Hotel, Cincinnati, February 10-11; Electrical Equipment Committee, New Jefferson Hotel, St. Louis, February 14-15; Annual Sales Conference, Edgewater Beach Hotel, Chicago, April 5-7; Engineering Committees, Edgewater Beach Hotel, Chicago, May 2-4; Annual Meeting, Traymore Hotel, Atlantic City, June 1-3.

American Institute of Electrical Engineers—Winter General Meeting, Statler Hotel, New York, January 31-February 4; Conference on the Industrial Application of Electron Tubes, Statler Hotel, Buffalo, N. Y., April 11-12.

National Association of Purchasing Agents—Public Utility Buyers' Group, Mid-Winter Conference, Edgewater Beach Hotel, Chicago, Ill., February 7-8.

Missouri Valley Electric Association—Power Sales Conference, February 10-11; Sales & Rural Committee, February 25; Accounting Committee, March 7; Engineering Conference, April 6-8; Rural Roundtable, May 4, Sales & Rural Conference, May 5-6; Accounting Conference, May 12-13; Annual Meeting, May 17. All meetings at the Hotel President, Kansas City, Mo.

Pennsylvania Electric Association — Prime Movers Committee, Hotel Hershey, Hershey, February 10-11; Transmission & Distribution Committee, Benjamin Franklin Hotel, Philadelphia, February 24-25.

National Association of Home Builders—Convention and Exposition, Stevens Hotel, Chicago, February 20-24.

National Adequate Wiring Bureau—Annual Conference, Stevens Hotel, Chicago, February 24-25.

American Society for Testing Materials — Spring Meeting and Committee Week, Edgewater Beach Hotel, Chicago, February 28-March 4; Annual Meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, June 27-July 1.

Institute of Radio Engineers—National Convention and Exhibition, Hotel Commodore and Grand Central Palace, New York, March 7-10.

National Electrical Manufacturers Association—Winter Convention, Edgewater Beach Hotel, Chicago, March 13-18.

Oklahoma Utilities Association—Annual Convention, Hotel Tulsa, Tulsa, March 17-18.

Southeastern Electric Exchange — Engineering & Operation Section, General Oglethorpe Hotel, Savannah, Ga., March 24-25; Annual Conference, Boca Raton Club, Boca Raton, Fla., April 13-15.

International Lighting Exposition and Conference—Stevens Hotel, Chicago, March 29-April 1.

National Association of Corrosion Engineers—Annual Conference and Exhibition, Netherland Plaza Hotel, Cincinnati, April 11-14.

Midwest Power Conference—Sherman Hotel, Chicago, April 18-20.

American Society of Mechanical Engineers—Spring meeting, Hotel Mohican, New London, Conn., May 2-4.

Electrochemical Society—Spring meeting, Benjamin Franklin Hotel, Philadelphia, Pa., May 4-7.

SEC RULINGS

Wisconsin Electric Power Co's application, requesting exemption of itself and two subsidiaries, the Wisconsin Gas & Electric Co, Racine, and the Wisconsin-Michigan Power Co, Appleton, from all provisions of the Holding Company Act, has been denied. The business of the two subsidiaries "is substantial in relation to the business of Wisconsin Electric," the SEC said. "Accordingly," it added, "we cannot find that Wisconsin is predominantly a public utility company, and for this reason we must deny the application for exemption." Wisconsin Electric is both a holding and an operating public utility company. (Release No. 8741).

Eastern Shore Public Service Co of Maryland, a subsidiary of Delaware Power & Light Co, has been authorized to acquire a purchase money mortgage in connection with the sale of its gas properties located in and about the City of Cambridge, Md., for a base purchase price of $40,200. The Public Service Commission of Maryland has approved the transaction. (Release No. 8744).

United Light & Railways Co has been authorized to renew $15,052,832 outstanding 2% notes for an additional period expiring Dec 31, 1949. These notes originally totaled $25,000,000. (Release No. 8748).

•

TVA Sells Copperhill System to Cooperative

Sale of Tennessee Valley Authority electric distribution facilities in the Copperhill, Tenn., area will "virtually remove TVA from the field of distributing electricity," George F. Gant, general manager, has announced.

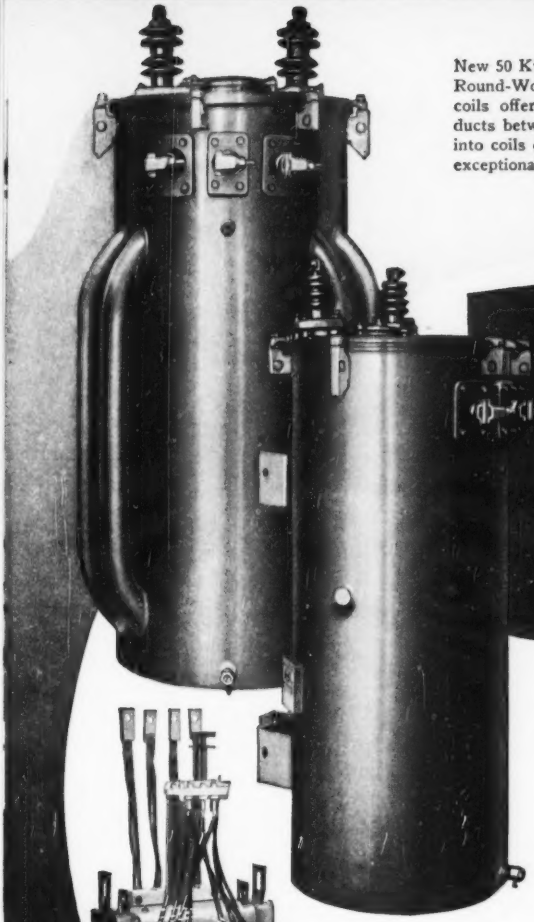
The newly organized Tri-State Electric Cooperative will pay about $333,000 for the system, which serves approximately 3,200 consumers in Polk County, Tenn.; Fannin County, Ga.; and Cherokee County, N. C. The co-op has a $500,000 expansion program.

•

Georgia Power to Award $3,500 to Contest Winners

Georgia Power Co will present cash awards to six Georgia towns this month at a series of dinners marking the conclusion of the company's Champion Home Town contest to stimulate community development activities.

Griffin, Camilla, and Washington won the three top prizes of $1,000, $500 and $250, respectively, in the 1,000 to 20,000 population group. Cleveland, Leesburg, and Woodbine took top honors in towns with less than 1,000 population. Entries were received from 159 towns.



New 50 Kva (left, back) and 37½ Kva Round-Wound transformers. Round coils offer more cooling surface; oil ducts between core and coil and built into coils eliminate hot spots and give exceptional short time overload capacity before excessive temperatures are reached. White dotted line in core-coil assembly (lower left) indicates shape of the wound silicon-steel strip core which reduces weight and improves performance characteristics.

ROUND WOUND COILS CORE

L-M ROUND-WOUND CONSTRUCTION MAKES 37½ and 50 KVA TRANSFORMERS 33⅓% lighter-

with improved short-time overload characteristics

L-M's famous Round-Wound construction is now available in 37½ and 50 Kva sizes. These new sizes have round coils wound directly onto the wound core. They offer all these advantages:

Weight reduced 33⅓% — with improved short time overload characteristics because of better cooling.

Balanced Performance — lower exciting current, better ratio of losses, improved regulation, lower impedance.

Longer service life through higher average impulse strength, and greater short circuit strength inherent in the round cross section coil.

New round tanks with all the latest L-M improvements in weather-resistant paint, moisture-tight covers and bushings, and L-M accessories.

Write for this Bulletin

Illustrates details of Round-Wound construction, describes L-M research and test facilities, and features and performance of L-M Distribution Transformers. Write Transformer Division, Line Material Company, Zanesville, Ohio.

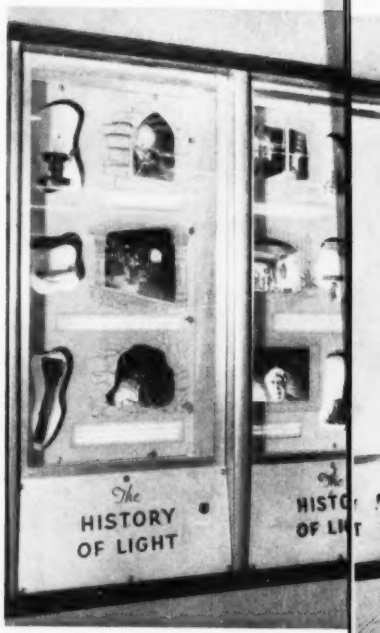
L-M Round-Wound Transformers are made in 1½ to 50 Kva, in all distribution class voltages including 14,400 volts, and meet EEI and NEMA standards.

LINE MATERIAL TRANSFORMERS

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street and Airport Lighting Equipment • Wired Radio Control Equipment • Capacitors

Washington's Electric Theater

A PLAYHOUSE, designed to present only plays with a moral, was opened Dec 20 in Washington, D. C. The moral is "Modern living means electrical living." And the audience will get their greatest enjoyment by applying the moral in their own homes. Sponsors of the Playhouse are Potomac Electric Power Co, in whose office building it is located, and the Electric Institute of Washington. The Playhouse is an intimate 98-seat auditorium built in conjunction with the Institute's permanent appliance exhibit floor. Three revolving stages and two elevator stages controlled from a single operating board permit demonstrations in the form of plays. The premiere was a playlet, "For Gracious Living," in which a wife uses her electric appliances to prepare her home and a dinner for a guest brought home by her husband, who notified her at the "last minute." Panels in the foyer are used to demonstrate the history of lighting and the advantages of Adequate Wiring. The Playhouse also has an electric kitchen, which will be used to prepare meals for guests.



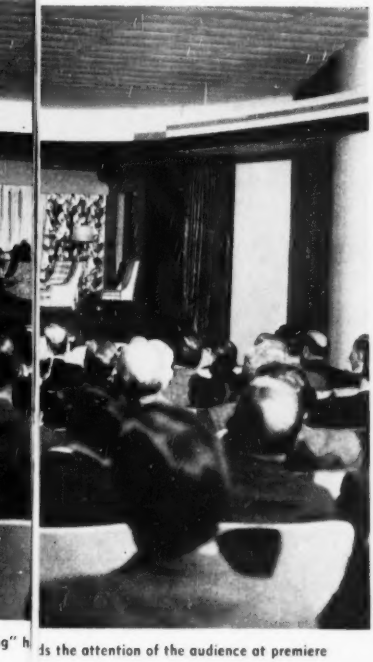
FOYER has series of operating panel displays expla

CONVERTING every other row of seats into tables makes it easy to serve meals to 49 persons

LIVING ROOM scene from "For Gracious Living" h

g development of lighting equipment

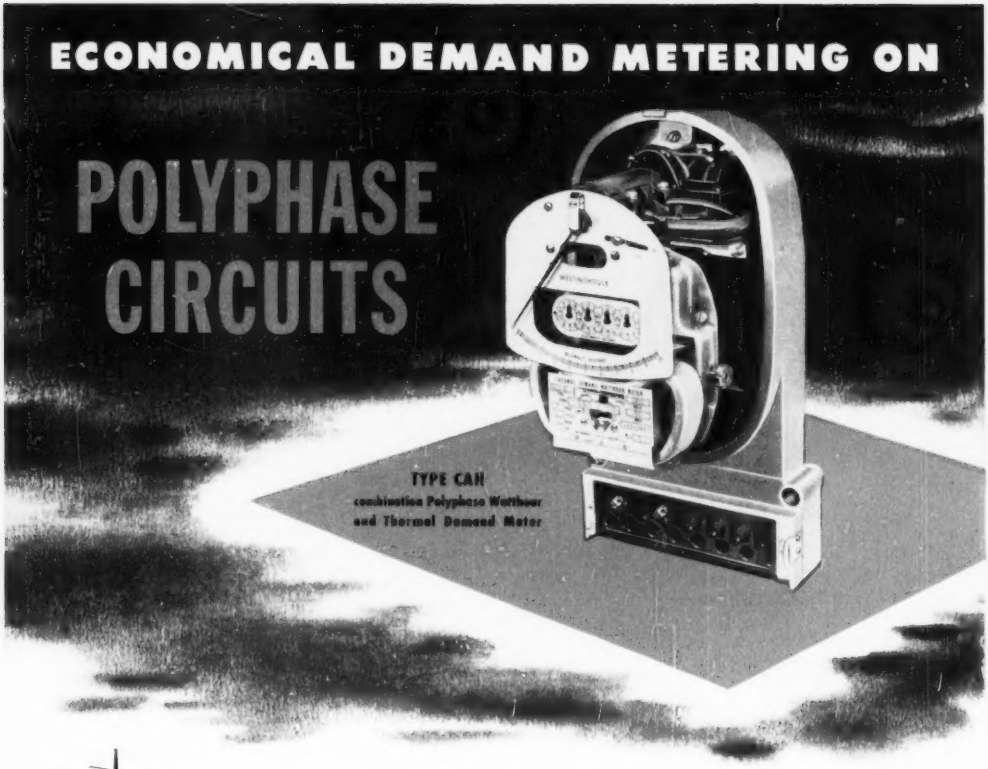
INSTITUTE President J. A. Mitzelfelt, left, Pepco President A. G. Neal, and J. T. Coatsworth of EEI



ds the attention of the audience at premiere

HEROINE easily overcomes all problems by using appliances in her well-equiped electric home

ECONOMICAL DEMAND METERING ON POLYPHASE CIRCUITS



...even where the load is small!

Here's your answer to the problem of low-cost demand metering on polyphase circuits . . . for the *full range* of loads.

YOU CAN BE SURE..
IF IT'S
Westinghouse

New, low-cost Westinghouse polyphase Demand Meters combine a standard polyphase Watthour Meter and a Thermal Demand Meter into *one* compact unit. Their inherently low maintenance characteristics make possible the sound economy of demand metering on small *or* large loads. Only one mounting is required . . . taking up little more space than one three-element polyphase Watthour Meter. Installation is greatly simplified. A low first cost is made possible through simplified design.

Whatever your requirements may be . . . kw *or* kva demand meters . . . single-phase or polyphase . . . Westinghouse has the meter that will give you the *accurate* and *economical* information you need. For complete information call your nearest Westinghouse office or write for C. S. 42-338, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-40364

Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Watthour and Demand Meters for Any Job

Accept Iowa P&L Bid for Council Bluffs Utility

The Iowa Power & Light Co's offer to buy the Western Iowa Power Co, Council Bluffs, Iowa., for $3,430,000 has been accepted.

Final acceptance of the bid by Omaha Electric Committee was made contingent on the Des Moines firm's being able to take possession not later than June 1. Before that date the buyer must get a franchise from the city and approval of the Securities and Exchange Commission.

Omaha Electric Committee, a nonprofit corporation, was set up to acquire properties now embraced by the Omaha Public Power District and Western Iowa Power. When the Nebraska properties became publicly owned through formation of the public power district, it became necessary to dispose of the Iowa property in accordance with laws preventing the Nebraska district from holding property outside the state.

The utility had to be offered for public ownership first. Eight other bids were made for the property. Iowa P&L paid $100,000 to bind the purchase.

•

Installed Capacity Rose 738,851 kw in November

The installed capacity of electric utility generating plants totaled 55,706,926 kw as of Nov 30, 1948, an increase of 738,851 kw during the month, the Federal Power Commission has reported.

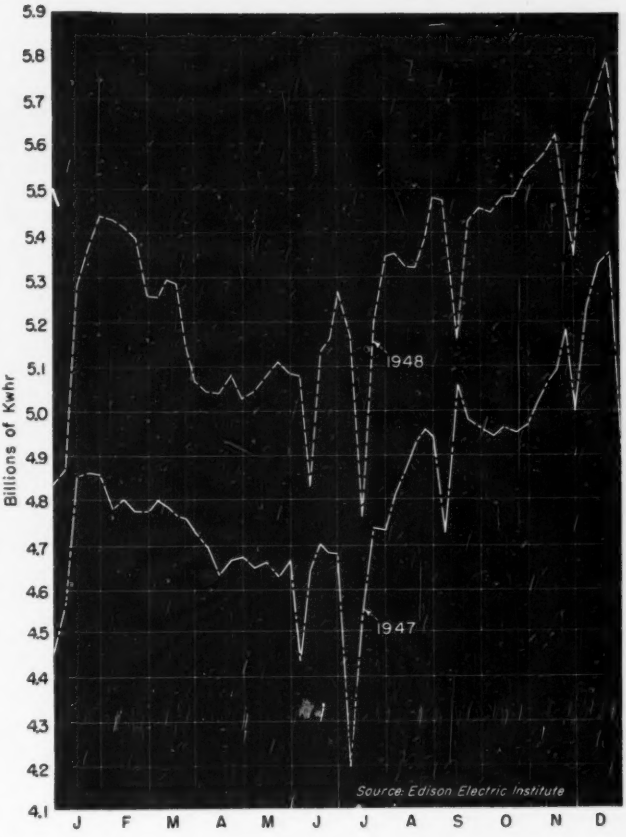
Production of energy by electric utilities during November, 1948, totaled 24,169,321,000 kwhr. This is the highest November production of record, exceeding production of November, 1947, by 10.7% and being only 0.7% lower than the record 24,351,360,000 kwhr produced during October, 1948.

Industrial production, including generation by railway and railroad plants, was 4,578,703,000 kwhr in November, an increase of 5.0% over November, 1947. Combined utility and industrial production during November was 9.7% above the same month of the preceding year.

•

PUD Buys Lebam Lines

Pacific County PUD No. 2 of Raymond, Wash, has purchased from the Puget Sound Power & Light Co lines with which Puget Sound formerly served the Lebam area in the eastern part of the county. Price for the lines, which the PUD has been using for several months, was $30,000.



Output for First Week of 1949 Up 12.4%

For the first time in a number of years, output for the first week of a year has turned downward. Total output of central generating stations for the week ended Jan 1 was an estimated 5,470,000,000 kwhr. This was a decrease from the 5,508,240,000 kwhr reported for the last week of 1948, which ended Dec 25.

But the increase over the corresponding week of 1948 was a strong 12.4%. This should indicate that 1949 will be another high year. Much greater output can be expected later in the month when industries get back into full gear after the holidays.

Total output for the 52 weeks ended Dec 25 was 275,585,041,000 kwhr. Though this will be changed slightly and is not the total for the actual calendar year, it is very close to it. The corresponding figure for last year was 250,686,789,000 kwhr.

At the end of November, according to the latest figures available, sales to residential consumers were increasing, and those to small light and power and to large light and power consumers were declining slightly.

Weekly Output, Millions Kwhr

1949		1948		1947	
Jan 1	5,470*	Jan 3	4,868	Jan 4	4,574
Dec 25	5,508	Dec 27	4,830	Dec 28	4,442
Dec 18	5,790	Dec 20	5,368	Dec 21	4,940
Dec 11	5,705	Dec 13	5,327	Dec 14	4,778
Dec 4	5,646	Dec 6	5,218	Dec 7	4,673
Nov 27	5,349	Nov 29	4,983	Nov 30	4,448
Nov 20	5,627	Nov 22	5,180	Nov 23	4,765
Nov 13	5,571	Nov 15	5,084	Nov 16	4,670
Nov 6	5,564	Nov 8	5,057	Nov 9	4,682
Oct 30	5,555	Nov 1	5,009	Nov 2	4,628
Oct 23	5,539	Oct 25	4,964	Oct 26	4,602
Oct 16	5,482	Oct 18	4,946	Oct 19	4,540

Percent Change from Previous Year

	Jan 1	Dec 25	Dec 18
New England	+11.0	+ 2.3	
Mid-Atlantic	+ 9.2	+ 4.9	
Central Industrial	+14.1	+ 7.1	
West Central	+15.5	+10.7	
Southern States	+13.1	+ 7.9	
Rocky Mountain	+20.2	+15.7	
Pacific Coast	+20.6	+12.0	
Total United States	+12.4*	+14.1	+ 7.9

*Estimated, subject to revision.

IN THE INDUSTRY

RICHARD N. LARKIN

STUDENTS OF THE CONTINUING TUSSLE between federal and privately owned power supply will find 76 pages of eye-opening material in the recommended decision filed recently by FPC Examiner Max Baron as a result of hearings on three applications to develop California's Kings River. The Fresno Irrigation District, Pacific Gas and Electric Co. and an individual filed competing applications for authority to develop some hydro projects there. The Reclamation Bureau opposed each of them. Baron recommended that FPC find the development should be undertaken by the United States rather than by any other agent, public or private.

Much of Baron's 76-page decision gives every evidence of having been lifted bodily from Reclamation literature promoting its Central Valley project. In part, Baron's report cites this Reclamation point:

"Intangible power benefits would be realized. . . . Such benefits include the greater dependability and continuity of power service through interconnection and coordination of power plants. . . ."

Without attempting to assess the weight he gave these intangible benefits, Baron cited them and his decision was that Reclamation should get the job. One must assume that these intangibles are a fit piece of evidence for FPC to consider in making its decision.

But, in another FPC examiner's report, filed about the same time, somewhat similar intangibles were recommended for removal from Arkansas Power and Light's plant account, with the comment:

"The original investments which are now found to be properly classifiable in Account 100.5 were not investments on which a return in perpetuity should be anticipated, but were investments in intangibles which should be amortized over a reasonable period."

There you have it. Intangibles which help FPC decide in favor of Reclamation's development of the Kings River are just nutsy. But they are bad medicine in AP&L's books and must go, forthwith. There's nothing new about this type of intellectual legerdemain—but there's nothing right about it, either.

Elsewhere, in discussing Reclamation's proposed development of the Kings River, Baron says:

"Taking the proposed project as a separate and self-contained unit, it is admittedly infeasible and it is agreed by all parties that, to make the project economically feasible, it would have to be supplemented with steam-generated power. The Bureau proposes . . . the construction of a steam-electric generating plant in the . . . delta . . ."

Baron's recommendation that Reclamation get the job indicates that he accepts USBR's HOPE for authorization to build the Delta steam plant. How much steam back-up for Kings River hydro anyone is going to get from an unauthorized plant which has been refused funds several times is problematical. But that's no problem to Baron. PG&E's steam system is in existence, Reclamation's isn't. The Kings development can't work without steam. Obviously, logic makes you ignore existing PG&E steam and embrace USBR's hoped-for thermal equipment—or does it?

These are far from all of the eye-openers in the Kings River report. There'll be more later.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Microwave radio for 20-mile reception requires about 266-ft antenna height at each end, if intervening obstacles 100 ft high are to be cleared.

Storage battery charging in half-sections results in less overvoltage and longer life of lamps on control boards.

System planning has a forceful new ally in the levels attained by prevailing costs.

Transformer and switching stations on one 66-kv system are to be increased 80% in the next three years.

Lightning arresters of differing principles could conceivably, but usually do not, offer the same margin of insulation strength at the same instant of the surge.

Tools recommended for maintenance crew use should not be blue-pencilled if they can expedite overhauls and repairs of equipment for quicker re-energizing.

Watthour meters register and behave very nicely at 300% above rating. Few, if any, other electrical equipments can even aspire to such a claim.

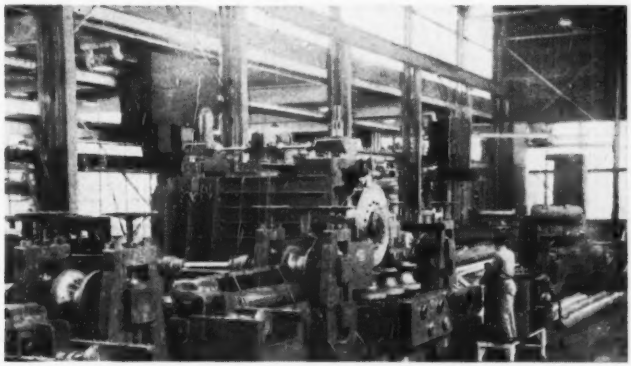
Services to the low-eaved ranch-type single-story home are creating a problem in meeting prescribed clearances. An accelerated national housing problem would probably accelerate the dilemma and the solution.

A wood transmission tower 300 ft high is reported to have been built by the Germans when the supply of steel was critical for them.

Eddy-current couplings of the same principle as used for draft-fan control are being used (thermostatically controlled) to ease truck-engine overheating in slow traffic.

Aerial cable application has been given a new stimulus by the sharply rising costs of tree-trimming along open-wire lines.

MANUFACTURERS and MARKETS



SHIPMENT of what is said to be the world's largest electric resistance welding pipe-making mill has been started by the Yoder Co, Cleveland, to the Di Tella Corp, Buenos Aires, Argentina. The mill, using cold steel plate up to one-half inch thick, has a capacity for producing 5-in. to 16-in. pipe or oil well casing at the rate of 15 to 60 ft per minute. Cost of the forming unit and welding machine is approximately $650,000, with auxiliary equipment costing approximately $350,000 additional. Operator is shown at controls feeding pipe into the welder

Postwar Surge in Electric Service Demand Creates Big Electric Market

The electrical manufacturing industry as a whole, during the year just ended, repeated its performance for 1947 by establishing a new overall peacetime peak in production and sales, W. J. Donald, managing director of the National Electrical Manufacturers Association, revealed in a year-end statement. The total production for the entire industry is estimated at $7,500,000,000, compared with $6,750,000,000 in 1947. This 1948 peak was 65% higher than the prewar peak reached in 1941 and 275% higher than the corresponding figure for 1939, Mr Donald reported.

"Provided no serious material or labor problems develop, indications point to as high a level of production and sales in 1949," he said. "Neither the records for 1947 and 1948 nor predictions for 1949 mean, however, that adjustment has not been occurring, nor that it will not continue to occur in 1949. 'Adjustment' is 'normal' in the electrical manufacturing industry as a whole. . . ."

"The postwar surge in demand for electric service has created an unusual demand for most of the products of the electrical manufacturing industry—higher, compared with prewar, than the demand for durable goods generally. This surge in demand is world-wide and applies not only to America but also, conspicuously, in Canada, Great Britain, Western Europe, and even China. Not least of the influences at work is the recognition of the cost-reducing values of industrial electrical equipment and of the power which it utilizes.

"The long-range expansion program of the American electric utilities and the high activity in residential, industrial, commercial, and public construction promise to continue the high level of business for the electrical manufacturing industry, probably for several years to come and certainly through 1949, and not improbably at a level higher, compared with prewar, than the levels of many other industries, particularly soft goods industries.

"For the second successive year," Mr Donald continued," electrical appliances accounted for a very large proportion of the total production of the electrical manufacturing industry. Sales of all types of electrical appliances amounted to $1,750,000,000 for 1948—three times the sales volume made in the very good business year of '41 and almost five times the business done in 1939.

"Electrical supplies for construction, including such items as wiring devices, fuses, small air circuit breakers, knife-switches, panelboards, etc, were again in considerable demand in 1948, and sales reached a new high, total business being approximately 5% greater than in 1947, 80% greater than in 1941, and 250% greater than in 1939. In this field, however, some product lines actually decreased, while others experienced an increase or were sold at the same rate as in 1947. Which items will be in greater or lesser demand in 1949 will depend considerably on the emphasis in different types of construction. . . .

"In the industrial field, total sales of such items as motors and generators, welding equipment, industrial electric controls, industrial heating units and devices, etc, continued their upward trend, but at a diminishing rate of increase. Total 1948 sales of such industrial electrical apparatus were only slightly higher than in 1947. In this field, increased activity in some lines made up for actual decreases in other lines.

"That portion of the electrical manufacturing industry responsible for the manufacture of equipment used for generation, transmission and distribution of electrical energy provides another example of surprising expansion. Total sales in this branch of the industry in 1948 were one third greater than they were in 1947; almost two and a quarter times what they were in 1941 and four times what they were in 1939. During 1948 power and distribution transformers alone accounted for more than $275,000,000 of manufacturers' sales. This figure represented more than 35% increase over the already astonishing figure of $200,000,000 made in the year 1947. . . . Sales of watthour and demand meters increased 33⅓% over 1947. . . .

"All of these figures," said Mr Donald in conclusion, "indicate quite

clearly the great variety of trends which exist for various product categories within the electrical manufacturing industry. Combined, they establish a record of performance which indicates clearly that the electrical manufacturing industry has made very considerable progress in meeting the increasing demand for electric service, thus clearing the way for greater use of still more electricity and the purchase of still more electric utilization equipment and appliances and, along with them, the use and purchase of many other non-electrical products. . . ."

•

Ups Prices on Big Motors and Turbine-Generators

General Electric Co's apparatus department has announced a 5% increase in the price of large electric motors, rated 50 hp and above, and a 10% increase for large turbine generators of 20,000 kw capacity and greater. The adjustments are necessitated by increased manufacturing costs in these particular lines, W. V. O'Brien, general sales manager, stated.

Price increases ranging from 5% to 10% on some electrical apparatus lines were also announced by the Westinghouse Electric Corp.

At the same time Mr O'Brien announced a change in the year-old price protection policy of GE's apparatus department, reducing the amount its contract prices can be increased from 20 to 10%. The new 10% price ceiling applies to all apparatus lines except for large power transformers above 15,000 kva, waterwheel generators, and synchronous condensers.

"We are reducing the ceiling to 10% in the interests of stabilizing prices and encouraging the continuation and fulfillment of expansion programs underway throughout industry," Mr O'Brien said.

Westinghouse also announced it has reduced from 20% to 10% the limit on the amount that prices of some lines of apparatus can be increased between the time of order and time of delivery.

J. H. Jewell, manager of Westinghouse apparatus sales, said the price hikes were necessary "because of continuing increases in manufacturing costs." Increases of 5% were made in the prices of steam condensers, feed water heaters and evaporators, a-c motors over 50 hp, and integral horsepower d-c motors. Turbine generators, 20,000 kw and above, were raised 10%.

Mr Jewell said the reduction in the ceiling on adjustable prices under escalator clause contracts was made "primarily because of much lower backlogs on most lines of products."

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Calif., Mendota—Pacific Gas & Electric Co., 245 Market St., San Francisco, bldgs. and fdns. for switchyard structures at Paoche Substation, near here. Over $70,-000.

Colorado—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, furnishing, del. f.o.b. cars shipping point or f.o.b. cars Loveland, 3 indoor type grounding reactors for use in neutrals of 6,900 volt, 3 phase, 60 cycle, 16,667 kva generators, complete with sheet metal housings for Estes Power Plant, Colorado Big Thompson Proj., Spec. 2517, L. N. McClellan, ch. engr.

La., De Ridder—Louisiana Electric Co-operative, Inc., Homer, electric generating power units, **$2,500,000.**

Kansas—Pioneer Co-operative, Ulysses, 143 mi. rural distr. lines, Grant and Haskell Counties. Horton & Co., Lamar, Mo., engrs.

Kansas—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point, or f.o.b. cars Ellis, two 4 ft. 0-in. by 5 ft. high pressure gates, two 110,000 lb. hydraulic hoists, 1 semiautomatic gate, 1 hydraulic gate hanger with parts for selsyn indicator, single throw mercury switch assembly, two 66 in. conduit lining transitions, 1 conduit lining, two 1¼ in. standard shoulder eyebolts, Cedar Bluff Dam, Missouri Basin Proj., Spec. 2515. Plans deposit $2.75. L. N. McClellan, ch. engr.

Kentucky—U. S. Eng., P. O. Box 1070, Nashville, Tenn., furnishing, del. f.o.b. cars at Danville, 10 main power transformers, appurtenances, Wolf Creek Reservoir, Serial No. Eng. 40-058-49-56. $750,-000-$1,250,000.

La., Farmerville—Louisiana Electric Co-operative, Inc., Homer, electric generating power units, **$2,285,000.**

La., Natchitoches—Louisiana Electric Co-operative, Inc., Homer, electric generation power units, **$5,570,000.**

Maryland—Choptank Electric Co-operative, Denton, 155 mi. line, sys. imprvs., 13 mi. new tie lines, two-way radio communication sys., completed constr. with prior REA approval consisting 145 mi. rural dist. line, Caroline Co. **$1,215,000.**

Nebraska—Twin Valleys Electric Membership Assoc., Cambridge, 333 mi. rural distr. lines, Furnas Co. **$333,000.** Flora Eng. Co., 1717 E. Colfax Ave., Denver, Colo., engr.

N. J., Trenton—Yards & Docks Annex, Navy Dpt., Arlington, Va., exhaust gas cooling equip. at Naval Aeronautical Turbine Laboratory, Spec. 21361.

N. Y., New York—Dpt. Correction, 100 Centre St., Zone 13, furnishing, installing 15 hp. electric driven compressor in generator room of Power House at New York City Penitentiary, Rikers Island.

North Carolina—French Broad Electric Membership Corp., Marshall, rural distr. lines, exten. to 900 homes, renovate office bldg., construct warehouse, Madison Co. **$334,350.** B. O. Vannort, 218 W. 2 St., Charlotte, **engr.**

North Dakota—R.S.R. Electric Co-operative, Milnor, 533 mi. rural distr. lines, sys. imprvs., completion previously approved, constr., Sargent Co. **$920,000.** Ulteig Eng. Corp., Fargo, consult. engr.

S. C., Charleston—South Carolina Power Co., 141 Meeting St., 2 addnl. power plant units, 1 1950 **$4,300,000,** other 1951 **$5,-000,000.** Gilbert Assoc., Inc., 412 Washington St., Reading, Pa., engr.

O., Eastlake—Cleveland Electric Illuminating Co., 75 Public Square, Cleveland, power plant on 45 acre tract along Lake Erie, near mouth of Chagrin River. **$20,-000,000.**

South Dakota—Bureau Reclamation, Dpt. Interior, Moorcroft, Wyo., street surf., sewerage, water and electrical distr. sys.; constructing residence, office and bunkhouse, metal laboratory and warehouse and shop moving, erecting seven Wingfoot residences for Keyhole Dam Govt. Camp, Missouri River Basin Proj., Spec. R6-23 (Region 6).

Texas—Robertson Electric Co-operative, Franklin, rural distr. lines, Robertson Co. **$500,000.**

Texas—Comanche County Electric Co-operative Assn., Comanche, 521 mi. rural distr. lines, sys. imprvs., 20 mi. new tie line, completing constr. with prior REA approval consisting of 49 mi. distr. line, Comanche Co. **$830,000.**

Tex., Woodsboro—Bayside-Richardson Co-operative Gin Co., Woodsboro, steel gin plant, electrically powered. **$200,000.**

Wash., Vancouver—Buffalo Electro-Chemical Co., River Rd. and Sawyer Ave., Tonawanda, N. Y., plant. Approx. **$1,-000,000.**

Low Bidders & Contracts Awarded

Calif., Burbank—Burbank City Council, 275 E. Olive St., power plant bldg., for Unit 3 of municipal steam plant, plant bldg., crave runways, foundation for cooling tower, to Oltmans Constr. Co., 810 E. 18 St., Los Angeles. **$135,399.** Bids 12/7.

Neb., Plainview—City, electric plant bldg. and sys. imprvs., Sects. 1 and 3, generator and building work, to R. V. Leary Co., Securities Bldg., Des Moines, Ia., **$116,375.** Bids 12/6. Fulton & Cramer, 922 Trust Bldg., Lincoln, engrs.

N. D., Grand Forks—Minnkota Power Co-operative, Grand Forks, mechanical work for power plant and equip., from Fuel Economy Eng. Co., 510 New York Bldg., St. Paul, Minn., **$329,875.**

Oregon—Bonneville Power Admin., 729 N. E. Oregon St., Portland, clearing 23 mi. Lyons-Lebanon right-of-way for 230 kv transmission line, Linn Co. from McPhail Eng. Co., 2904 Alaska St., Tacoma, Wash., **$146,000.**

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Mass., Boston—Mass. General Hospital, Fruit St., plans by Coolidge, Shepley, Bulfinch & Abbott, 1 Court St., 8 story, brick, steel 48 x 163 ft., disease control research bldg. **$2,750,000.**

O., Columbus—Ohio State University, Columbus, student union bldg. $5,000,000. Bellman, Gillett & Richards, 518 Jefferson St., Toledo, archts.

Pa., York—York Hospital, York, hospital addns. **$2,500,000.**

Tex., Pasadena—City, Sam Hoover, mayor, 150-bed hospital. **$1,000,000.**

Low Bidders & Contracts Awarded

Okla., Tulsa—University of Tulsa, 600 S. College St., John E. Mabee and Lottie Jane Mabee dormitories, University of Tulsa, to A. L. Ward, 2880 E. 8 St. Est. **$1,000,000.** Awarded 12/17. Atkinson & Murray, Thompson Bldg., archts.

Pa., Phila.—Russeks Fifth Avenue, Inc., 5 Ave. and 36 St., New York, N. Y., modernizing store, to Frank J. Larkin Constr. Co., Inc., 1518 Parrish St., **$1,000,000.** Thalheimer & Weitz, Bankers Security Bldg., archts.

Pa., Pittsburgh—Montefiore Hospital, 5 Ave., 12 story, 50 x 1414 ft., brick, stone, steel nurses home and hospital addn. 3459-5 Ave., to Branna Constr. Co., Bessemer Bldg., 6 St. Est. **$1,990,900.** Bids 12/9.

Good Lighting

THE MODERN PATHWAY TO SALES

Designers agree that the newest in store design calls for a lighting system that is planned to bring in sales.

Electricians agree that even the best designed system can't keep on building sales unless the wiring that goes into it is selected to give long-term, dependable service. Heat-beating Deltabeston is approved for use at temperatures as high as 125 C (257 F)—and it's built to cut troubles due to moisture.

Deltabeston, Type AF, fixture wire is flexible for easy handling, without injury to insulation. It's easy to strip for fast work. Smooth-finished, it fits easily into fixtures and other assemblies.

GENERAL ELECTRIC

Protect it with...

DELTABESTON*

A new Deltabeston service. If desired, Deltabeston fixture wire can be supplied with ends tinned, ready to install. Completely eliminated are the bother and trouble that go with measuring and cutting wire to length, stripping and twisting ends, and tinning. And, the cost is so slight it will amaze you. For more information, fill in the coupon below.

**Trade-mark Reg. U. S. Pat. Office.*

Section Y25-127
Construction Materials Department
General Electric Company, Bridgeport 2, Connecticut

Please send me:

- ☐ Information on Deltabeston, Type AF, fixture wire
- ☐ Free samples of Deltabeston
- ☐ Information on the new ready-to-install Deltabeston service

Name _____ Title _____

Company _____

Address _____

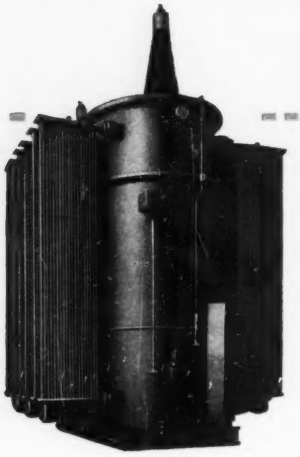
City _____ Zone _____ State _____

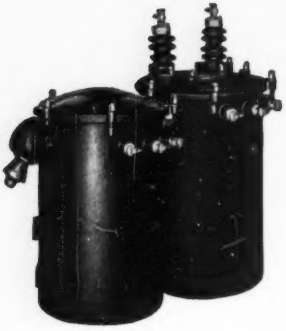
For Better Performance

specify

MOLONEY TRANSFORMERS

...less maintenance expense...longer life...
better performance proved by operating records!





POWER TRANSFORMERS

Research, with our 2,500,000 volt Surge Generator playing an important part, together with 50 years experience in the *exclusive* manufacture of transformers is responsible for the fine operating records users are experiencing with Moloney Power Transformers.

Modern design, workmen of long experience, highest grade material and adequate processing facilities are combined to produce these transformers.

DISTRIBUTION TRANSFORMERS

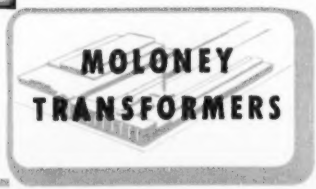
Moloney Conventional Distribution Transformers are widely used on utility distribution systems and in industrial lighting and power applications. Here too, Moloney's engineering and research have combined to make a superior product to fit your needs. Moloney Distribution Transformers are available in capacities from 1½ to 500 Kva, in voltages up to 66,000 volts.

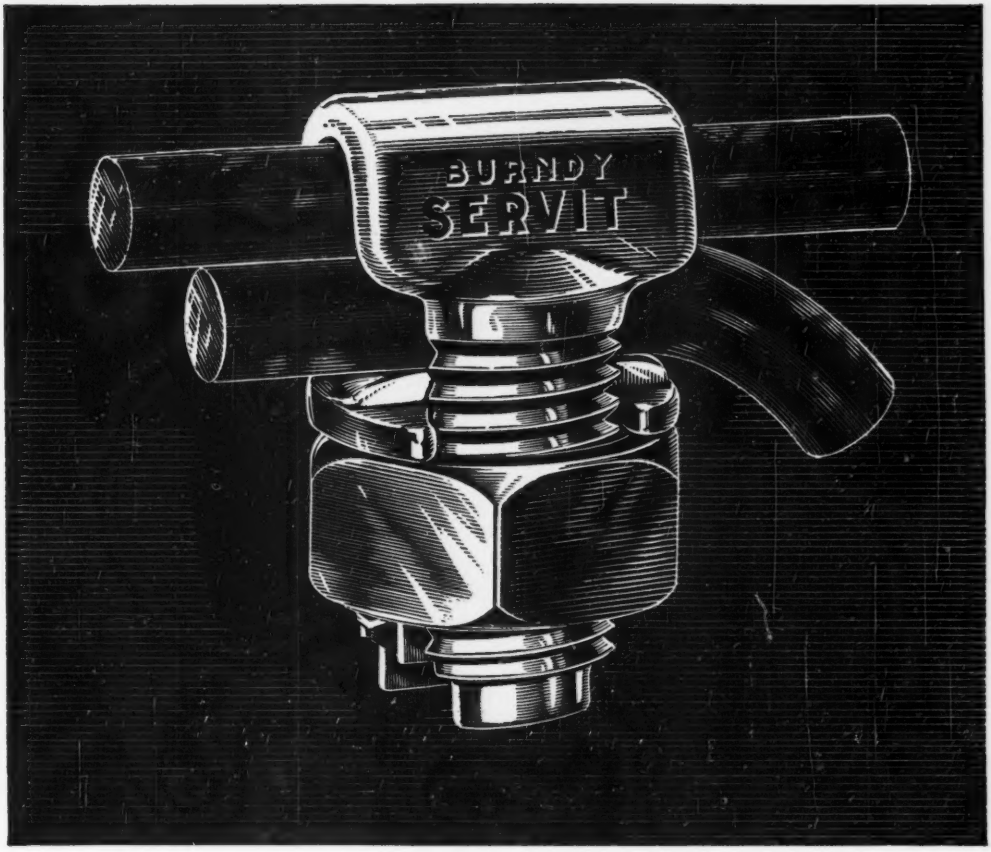
MOLONEY MAKES

- Power Transformers
- Unit Substations
- Conventional Distribution Transformers
- Completely Self-Protected (CSP) Transformers
- Load Center Transformers
- Askarel (Non-Inflammable Liquid) Cooled Transformers
- Air-Cooled (Class A and Class B Insulated) Transformers
- Constant Current Street Lighting Transformers
- Vault Type Transformers
- Submersible Type Transformers
- Industrial Transformers
- Network Transformers

TRANSFORMERS EXCLUSIVELY SINCE 1896

MOLONEY ELECTRIC COMPANY
SAINT LOUIS 20, MISSOURI





Burndy Servit . . . universal favorite for taps, dead ends, service entrances, motor leads, junction boxes and ground-wire to neutral connections. Extremely compact, with rounded edges easy to tape. Develops and holds high pressure between conductors. Thirteen sizes accommodate conductors from #10 to 1000 Mcm. Catalog 41 describes SERVIT and other leading Burndy connectors . . Whatever you connect, be sure to . .

Connect with
BURNDY
New York 54, N. Y.

WESTERN BRANCH: Vernon 11, California • CANADA: Canadian Line Materials, Ltd., Toronto 13 • FOREIGN: Philips Export Corp., New York 17, N. Y.

OVER 90 ITEMS OF O-B DISTRIBUTION MATERIALS AVAILABLE FROM 83 GRAYBAR WAREHOUSES

The Hardware You Want

WHEN AND WHERE YOU WANT IT

O-B's experience and reputation plus Graybar's nation-wide warehouse facilities is a combination that brings you the best in distribution material, when and where you want it!

You can assure yourself of a constant supply of preferred designs, without the trouble or investment of maintaining large stock room inventories. Graybar can do this stocking for you, not only with O-B hardware, but with the full O-B distribution line including pintype insulators, spools, guy strains, and many other items. Discuss this plan with the Graybar representative in your territory.

Ohio Brass

2935-H

MANSFIELD, OHIO

NEWS ABOUT PEOPLE

Atlantic City Utility Elects B. L. England, President

(See Front Cover)

Bayard L. England has been elected president of the Atlantic City (N.J.) Electric Co to succeed Philip Sporn,

C. M. HAGAN

president of the American Gas & Electric Co, who is retiring as head of the New Jersey utility. Charles M. Hagan of Longport, N. J., has been elected vice-president and Albert C. Goebel, secretary-treasurer.

Mr England started with the Atlantic City Electric Co as a clerk in the distribution engineering department in 1923. Subsequently he served as manager of the central division at Ocean City, commercial manager and assistant general manager, and then as vice-president and general manager. Mr England is vice-president of the New Jersey Utilities Association.

Mr Hagan joined the company in 1928 as a power sales representative. In 1941 he was made manager of the company's River division with headquarters in Salem, N. J. Five years later Mr Hagan went to Atlantic City as assistant general manager.

Mr Goebel joined the company 39 years ago as an office boy. For many years he held the position of general office manager. Mr Goebel is treasurer of the New Jersey Utilities Association.

•

▶ Dr Henry G. Booker of Cambridge University, one of the world's foremost authorities on the propagation of electric waves, has been appointed a professor of electrical engineering at Cornell University. The 38-year-old British scientist is internationally known for theoretical research in electromagnetism. Dr Booker has conducted radio-meteorological studies in England, India, and Australasia and has been honored for his research by the British Institution of Electrical Engineers.

•

W. Nye Appointed Head of Electrical Department

Warren Nye, who has been connected with the Otter Tail Power Co, Fergus Falls, Minn., since 1934, has been ap-

W. NYE

pointed head of the electrical department of that utility.

Starting as meter tester, Mr Nye worked in that capacity until 1936 when he was assigned to special testing, involving plant, substation, and wholesale meters. Four years later he was placed on special maintenance work and subsequently was named head of the meter department.

In 1945 Mr Nye was promoted to construction superintendent, the position he occupied at the time of his recent promotion.

•

▶ Edgar G. Hill, for many years a vice-president and director of Ford, Bacon & Davis, New York, has retired from active service. He continues with the organization in the capacity of a consultant.

R. L. Sommerville Assumes Executive Sales Duties

Appointment of Robert L. Sommerville as assistant general sales manager of the Electric Storage Battery Co, Phil-

R. L. SOMMERVILLE

adelphia, has been announced. He was formerly manager of automotive sales.

Mr Sommerville, who has been connected with the Electric Storage Battery organization for 30 years, brings to his new position a long and wide experience in the battery business from both the engineering and the merchandising angles.

Early in his career he was employed in the laboratories of the Federal Signal Co, Albany, N. Y., and later served in an engineering capacity on locks and in power plants in the Canal Zone. His association with Exide began in 1919 in the capacity of a salesman in the New York branch; in 1932 he was promoted to manager of automotive replacement sales at the company's general offices in Philadelphia and ten years later was made manager of automotive sales.

Mr Sommerville served as alternate on the Battery Advisory Committee to WPB and as chairman of a battery industry committee to U. S. Army Ordnance. He has been active in industry affairs and is now chairman of the statistical committee of the Association of American Battery Manufacturers.

•

▶ Thomas R. Weichel, formerly connected with the U. S. Bureau of Mines, is now associated with the sales depart-

ment of the Hazard Insulated Wire Works Division of The Okonite Co, Wilkes-Barre, Pa., as mining electrical engineer. In his new position, Mr Weichel works closely with the technical and production departments, as well as sales, in developing cable designs to aid in the electrification of mines. During his 15 years of experience in the mining field, he has served with various mining companies in capacities ranging from electrician to mine foreman. He had been associated with the U. S. Bureau for the past six years.

•

Brown, Chairman; Jacobs President, Phelps Dodge

Wylie Brown, president of Phelps Dodge Copper Products Corp, has been elected chairman of the board of directors and will continue as chief executive officer of the corporation.

W. BROWN

Whipple Jacobs, formerly president of the Belden Manufacturing Co, Chicago, has joined Phelps Dodge as president.

Mr Brown has been president of the corporation since it was founded, and both he and Mr Jacobs are widely known in the copper industry.

W. JACOBS

•

► A. B. Cooper, president of Ferranti Electric Limited, and the first president of the Canadian Electrical Manufacturers Association, has been appointed chairman of the Canadian National Committee, International Electrotechnical Commission.

► J. Harold Booth has been appointed executive vice-president and general manager of the Polaroid Corp, Cambridge, Mass. Mr Booth was formerly vice-president in charge of sales of the Bell & Howell Co, motion-picture equipment manufacturer.

► Norman K. Jacobshagen has joined the Kansas Gas & Electric Co, Wichita, as sales promotion and advertising manager. In the 1930's Mr Jacobshagen was connected with Kansas Gas at Independence and Wichita, leaving to serve as a flight instructor. Sometime ago he re-entered the sales and advertising field with McCormick-Armstrong, his latest connection.

THREE EXECUTIVES of the Phelps Dodge Copper Products Corp have been elected vice-presidents. They are (l to r): Henry L. Marion, Edgar P. Dunlaevy, and Weightman Edwards. All three have been with the company more than 20 years, Messrs Dunlaevy and Edwards in the sales department, while Mr Marion has been engaged in production control and coordination of operations for the company

OBITUARY

► Harold W. Derry, electrical engineer with the Pacific Power & Light Co, Portland, Ore., died on Dec 20 in that city. He was 65 years old. Before going to the Pacific Coast in 1939, Mr Derry had a broad background of experience in the utility field. Early in his career he got into the sales end of industrial power. Starting with the Pittsfield (Mass.) Electric Co in 1913, he later joined the Hartford Electric Light Co and while with this utility became widely known for his work in the industrial electric heating field. Subsequent connections followed with what was then the Union Gas & Electric Co at Cincinnati and with the Pennsylvania Power & Light Co. For three years prior to going to Pacific Power & Light he was principal industrial engineer for TVA. Mr Derry was active in the old National Electric Light Association and in 1935-36 served as consultant on exhibits for the Third World Power Conference, held in Washington, D. C. Mr Derry was a native of North Attleboro, Mass.

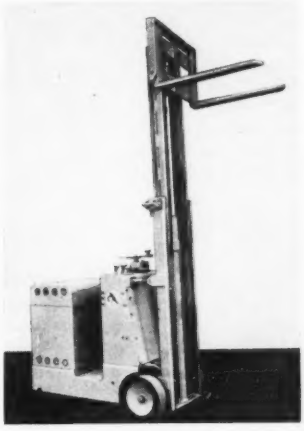
► David P. Graham, vice-president of the Peabody Engineering Corp, New York, died on Dec 18 at his home in Westbury, Long Island. During his 22 years with Peabody Mr Graham rose from sales engineer to sales manager, manager of gas scrubber division, assistant to the president, and was later appointed executive vice-president, the position he held at the time of his death. He held patents on many types of industrial equipment, such as the Peabody constant differential valve and, among others, a means for the regulation of oil viscosity, several gas burner patents, air registers for the combustion of fuels, and gas and liquid contact apparatus.

► Paul Mooney, editor of the Mississippi Power & Light Co publication, was killed Dec 18 when the car in which he was driving crashed into a bridge just north of Jackson. Mr Mooney was a native of Syracuse, N. Y., and had been identified with Mississippi Power & Light since 1945.

► Thomas C. Lawrence, electrical engineer for the Olympic Portland Cement Co at Bellingham, Wash., died in that city on Dec 9. He was 41 years old. Mr Lawrence had been with the Bellingham company for two years and before the war worked with the General Electric Co.

► James A. Hurley, safety engineer for the Detroit Edison Co for the past 33 years, died on Dec 18.

NEW EQUIPMENT



Electric Fork Truck

LEWIS-SHEPARD Products Inc, 272 Walnut St, Watertown 72, Mass., have added a 1500-lb capacity electric unit to their line of power fork trucks. This unit, 34 in. wide, is available in a telescopic model, with collapsed height of 83 in., lifting height of 129 in., and a non-telescopic model.

Features of the truck include: pivot point steering; low center of gravity; and deadman-type brakes.

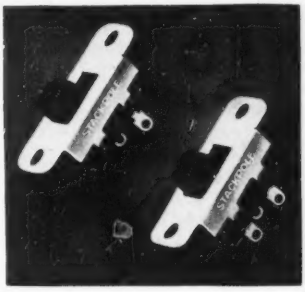
•

Bit-Weight Control

AN ELECTRICAL system which automatically controls the weight of an oilwell drilling bit in operation is announced by General Electric Co's Materials Industries Division, Schenectady 5, N. Y. The system consists of four components: a drag generator; an amplidyne-controlled regulating generator and exciter (illustrated); a main control panel; and an operators control panel.

The drag generator applies the electrical hold-back torque to the drawworks drum; the regulating generator keeps this torque constant for desired drilling speeds. Requiring no additional power source, the regulating generator may be belt-driven by the rig engine. Power cables are equipped with coupler plus and sockets.

•



Slide Switches

TWO SLIDE SWITCHES, having sufficient current-carrying capacity for electrical tools, fans or other appliances, are made by The Stackpole Carbon Co, St. Marys, Pa. Type SS-26, spst, and Type SS26-1, spdt, are both 1⅛ in. long by 17/32 in. wide.

The switches are rated one amp at 125 v. d-c, or three amp at 125 v. a-c, and have UL approval.

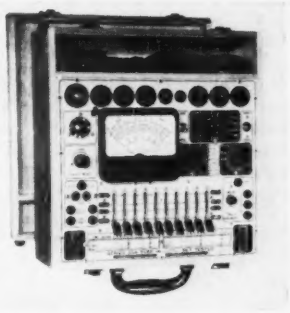
•

Electronic Tester

PRECISION APPARATUS CO. INC. 99-27 Horace Harding Blvd. Elmhurst, L. I., N. Y., has added the Series 654 tester to its line of test equipment.

Designed to meet the specific needs of electronic technicians, the unit combines a cathode conductance tube tester, a dynamic (under-load) battery tester and a high sensitivity a-c and d-c circuit tester into a compact service set.

The instrument incorporates a wide angle, 50-microamp meter and requires only two pin jacks for all standard ranges. Further information is available from the company upon request.

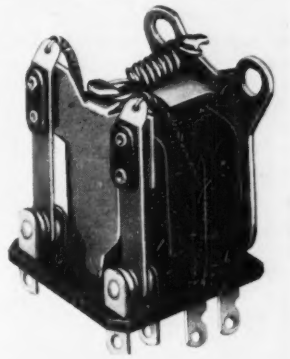


•

Magnetic Relays

BULLETIN 102 miniature magnetic relays have been designed by Ward Leonard Electric Co, Mt. Vernon, N. Y., for automatic and remote control circuit applications where space is extremely limited. Measuring 1⅛ in. high, 1⅝ in. long and 1 in. wide, these relays have a metal base and solder type terminals.

Suitable for operation directly on 115-v, 60-cycle or 32-v d-c circuits, these miniature relays are supplied with dpdt silver contacts rated at 3 amp, 115 v and 60 cycles maximum, for non-inductive loads.



ELECTRICAL BUSINESS OUTLOOK

METAL PRICES have risen steadily for the past year. General price indexes cover this up. They have been steadying in recent months because agricultural prices are sliding. But, meanwhile metals have been getting more costly. That's one reason why utilities' "cost of living" hasn't dropped.

The average price of all metals and metal products is now 15% above a year ago. Non-ferrous metals are up 20%. Rising labor costs are the big reason. But also important is the continued pressure of demand. There has been no consumer resistance to higher prices for steel or copper. They are too badly needed for a host of products, including electric power equipment.

Now what are the prospects for 1949? It's hard to see a let-up in demand for any of the metals. Major steel-consuming industries like automobile, construction, and rail equipment are after bigger supplies. And so, of course, are the electrical equipment makers. Heavy demand for non-ferrous metals is also expected in the next months. And the government stockpiling program hasn't begun to get all the metal originally hoped for. The stockpile will take up any slack in consumer demand that might develop.

Worst pinch of all is in copper supplies. The strike at Utah Copper has reduced current availability of the red metal. At least 50,000 tons have been lost to the market. And this, in turn, will make it harder to produce finished copper wire so badly needed in the utility construction program.

Copper may continue scarce for some time. But a further rise in prices is not too likely. Metals are the most logical item to be put under price control or allocation if such powers are obtained by the new administration. So copper producers will probably be reluctant to institute another price boost. Some trade observers think the last increase in zinc price would not have been made in the present political climate.

The same considerations apply to steel, lead and other metals. Demand would probably support higher prices. But, unless 1949 wage boosts are larger than expected, the metals companies will be hesitant to come out with higher quotations. To do so would be likely to invite government intervention.

One section of the market for metal products has shown some weakening. Consumer appliances did not sell as well as hoped for during the Christmas season. The proportion of metal going into these devices is small compared with industrial use. But, unquestionably, an effort will be made from now on to get the cost of consumer products down. And this may influence metal suppliers.

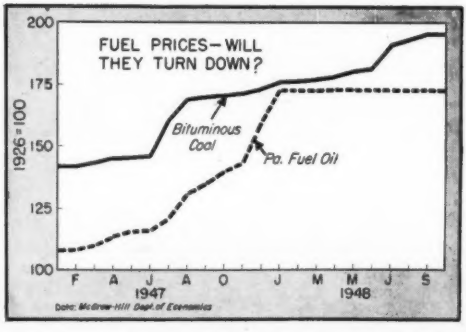
HEAVY EQUIPMENT for power companies is being turned out in greater quantities. On large power projects, where construction may take up to four years, power transformers can now be obtained in 30 months. Smaller power transformers are available in half that time. Many switchgear items are now available from stock. And on the larger switchgear, delivery times have been reduced as much as one-third during the past year.

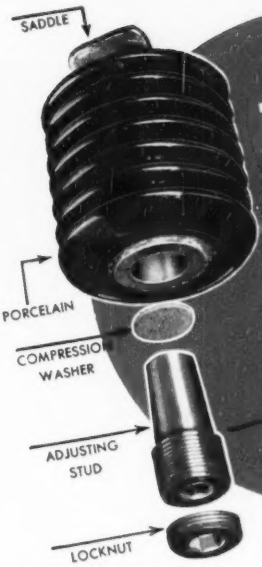
This improvement is traceable to the large expansion of capacity undertaken by electrical apparatus manufacturers. These companies have caught up with current demand and are beginning to cut into their backlog. Even on heavy generators, better production rates are resulting in delivery dates several months faster.

The equipment makers have also done a remarkable job of supplying power-using machinery to industrial plants. Backlog orders for electric motors ran into the millions in 1946. Most of these orders have now been filled.

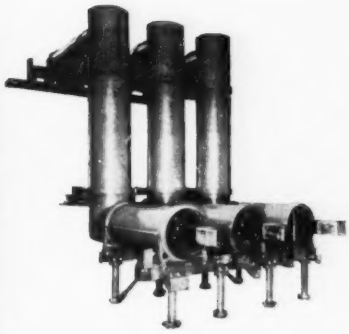
In fact, industry-wide production is now well below the rate at which new motors were installed in 1946 and 1947. On the other hand, deliveries of power producing equipment are increasing. So utilities should be enabled to gain in the race to provide power service for our growing economy.

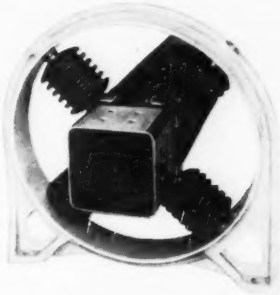
COAL COSTS are already dropping for some utilities. A spot check by ELECTRICAL WORLD confirms the trend noted in our last Business Outlook (Dec 25). The coal industry not only has caught up with demand but is now far ahead. In the oil industry similar conditions prevail. For utilities this is good news. It indicates that fuel prices (charted below) have ended their upward course.

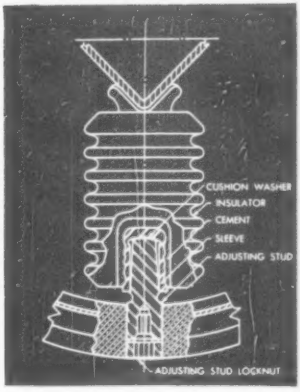




Rocked in a cradle to beat heat!







● Ever stand near a bus structure that is carrying 5000 Amperes at 15 KV? There's heat there, and plenty of it. But it's variable heat because of the varying current conditions. The bus conductors feel the variations in heat and expand and contract accordingly. This means that a conductor must be supported in such a way as to allow for thermal expansion movement.

The best supports to use are high-strength porcelain insulators. But porcelain — in order to be used most advantageously and economically — should be subjected only to compression forces. Cantilever and side stresses must be eliminated — and thereby hangs a tale of I-T-E Engineering.

In the I-T-E Isolated Phase Bus Structures, the stresses on insulators are limited *to compression* by the use of a socket type insulator support, which allows the insulator to pivot and follow the movement of the conductor through a temperature change. This action is accomplished with a supporting stud of special shape, fitted into the hardware of the insulator. This stud allows the insulator to rock, yet still positions it positively in the ring. This rocking motion is enough to allow for normal thermal expansion, but if more freedom is needed, the conductor is free to slide in the special saddle supporting it.

This is a typical example of an unusual problem solved by I-T-E engineers. The better design of bus conductor supports is just one example of I-T-E'S careful design right down to the last detail. With I-T-E, quality is paramount — and the quality of the whole unit calls for thorough planning of its smallest detail.

It is this strict attention to detail — this insistence on quality throughout — that has earned I-T-E its world-wide reputation as a maker of the finest in switchgear and power equipment.

I-T-E

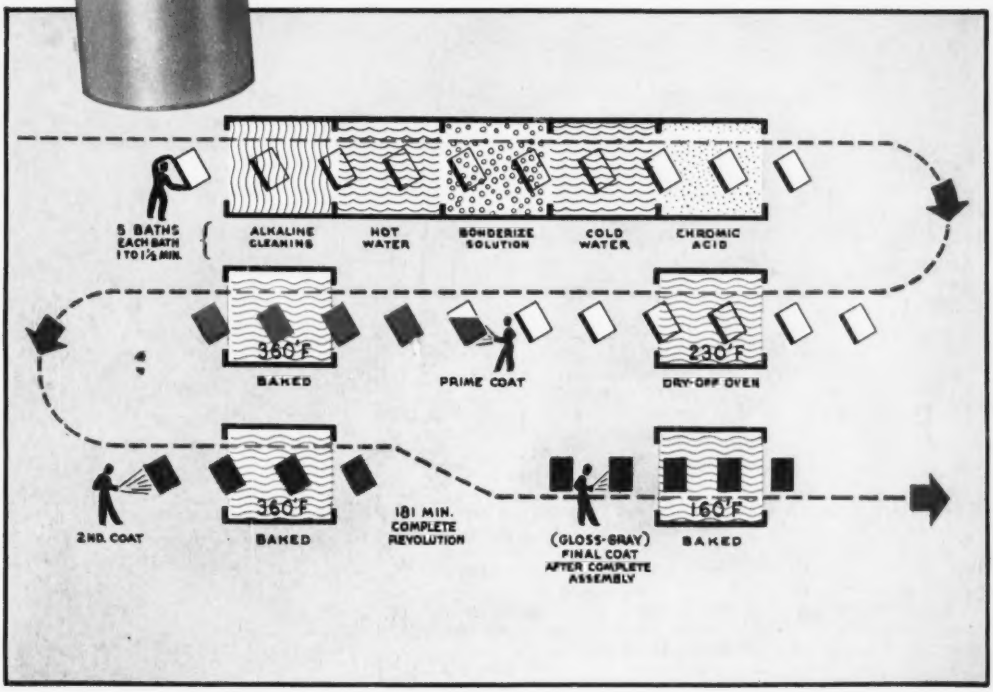
THE LEADER IN TECHNICAL EXCELLENCE

I-T-E CIRCUIT BREAKER CO., 19TH & HAMILTON STREETS, PHILADELPHIA 30, PA.

31 OFFICES IN THE UNITED STATES. In Canada, Eastern Power Devices, Ltd., Toronto

SWITCHGEAR • UNIT SUBSTATIONS • ISOLATED PHASE BUS STRUCTURES • RESISTORS • SPECIAL PRODUCTS

Spra-Bonderized— to Beat SEVERE WEATHER, CORROSION



Allis-Chalmers Distribution Transformers

TRANSFORMERS get *Lasting Protection* with Spra-Bonderized surface treatment . . . a hot dip phosphate process which converts metallic surface of transformer tank to a non-metallic phosphate coating.

Because this coating is bonded integral with the metal, it effectively retards corrosion, even in the extreme case of abrasion or scratching of paint film. After Spra-Bonderizing, tank gets three coats of tough, baked-on enamel.

A lasting finish is just one advantage of specifying Allis-Chalmers distribution transformers. You also benefit through 12-point quality construction, reductions in size and weight, and through selection from a *complete line* of standard ratings. Ask your nearby A-C sales representative for the complete story. Or write for bulletin 61B6159A.

A 2599

ALLIS-CHALMERS, 932A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

Pioneers in Power and Electrical Equipment from Generation through Utilization